

Revision of the genus *Syntretus* Foerster (Hymenoptera: Braconidae: Euphorinae) from Europe

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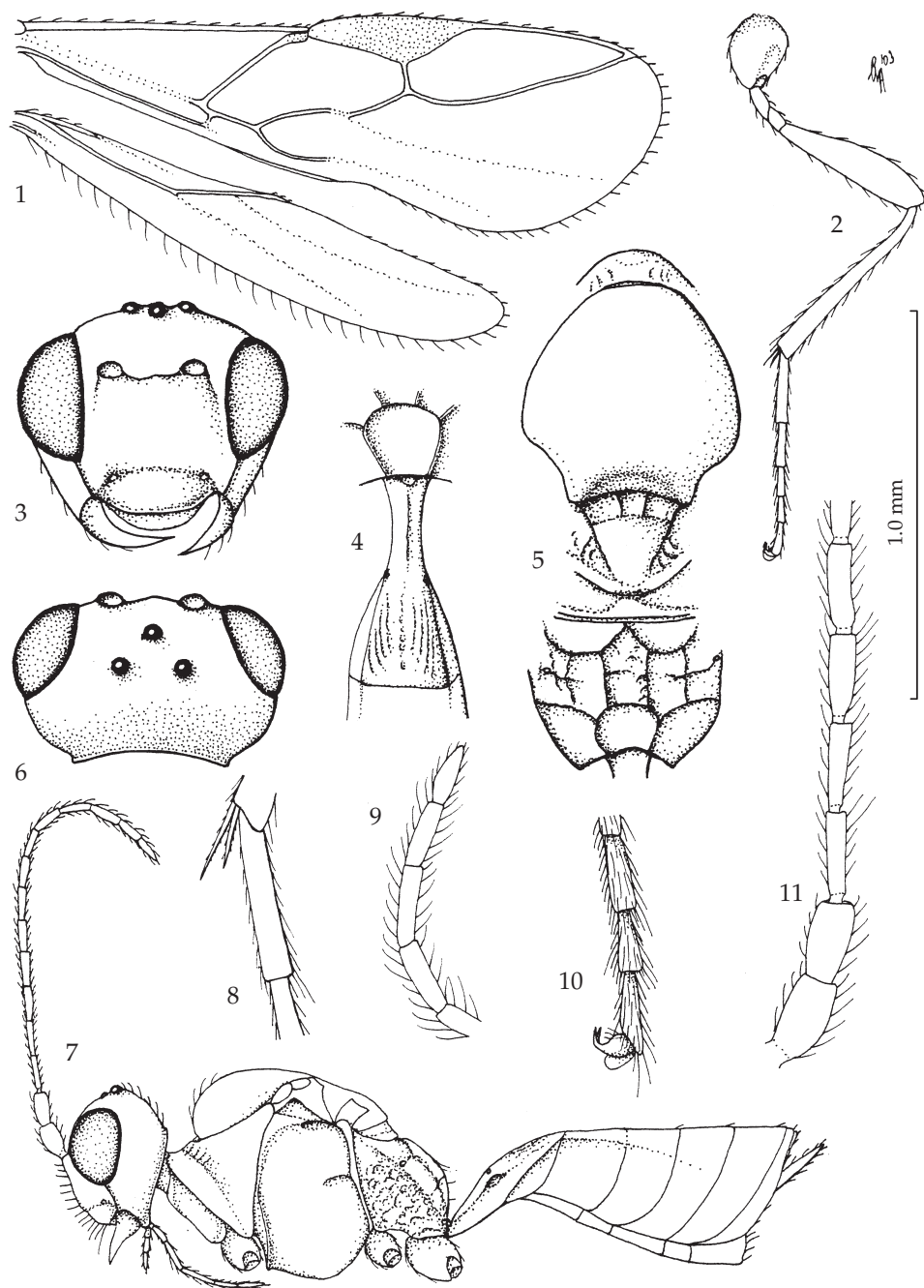
Key words: Braconidae; Euphorinae; Syntretini; *Syntretus*; *Falcosyntretus*; *Exosyntretus*; *Parasyntretus*; key; distribution; synonyms; Europe; West Palaearctic; East Palaearctic; Japan; lectotype; neotype.

The species of the genus *Syntretus* Foerster, 1862 (including *Falcosyntretus* Tobias, 1965, and *Exosyntretus* Belokobylskij, 1998) (Braconidae: Euphorinae; Syntretini) from Europe are revised and keyed. The genera *Falcosyntretus* Tobias, 1965, *Exosyntretus* Belokobylskij, 1998, and *Parasyntretus* Belokobylskij, 1993, are synonymised with *Syntretus* Foerster, 1862, and the second one is provisionally used as a subgenus (stat. rev.). The subgenus *Exosyntretus* is reported for the first time from Europe and two new species are included. In total twenty species of the genus *Syntretus* Foerster are recognised (plus one species only known from literature: *Syntretus dzieduszykii* Niezabitowski, 1910), of which ten are new: *Syntretus breviradialis* spec. nov., *S. flevo* spec. nov., *S. fuscicoxis* spec. nov., *S. fuscivalvis* spec. nov., *S. minimus* spec. nov., *S. ocularis* spec. nov., *S. shawi* spec. nov., *S. stenochora* spec. nov., *S. taegeri* spec. nov., and *S. zuijleni* spec. nov. *S. planifacies* Belokobylskij, 1993, and *S. falcifer* (Tobias, 1965), are reported from Japan for the first time.

The following new synonyms are proposed: *Microctonus vernalis* Wesmael, 1835, and *M. cultus* Marshall, 1887, with *Syntretus idalius* (Haliday, 1833); *Syntretus cynthius* Lyle, 1927, with *S. politus* (Ruthe, 1856); *Microctonus testaceus* Capron (in Marshall), 1887, and *Syntretus niger* Tobias, 1976, with *S. splendidus* (Marshall, 1887); and *Syntretus lyctaea* Cole, 1959, with *S. xanthocephalus* (Marshall, 1887). Lectotypes are designated for *Syntretus splendidus* (Marshall, 1887), *S. vernalis* (Wesmael, 1835), *S. cultus* (Marshall, 1887) and *S. klugii* (Ruthe, 1856). A neotype is designated for *S. idalius* (Haliday, 1833). The purpose of the designations is the stabilization of the taxonomy of the group.

Introduction

The subfamily Euphorinae Foerster, 1862 (Braconidae) is a very diverse group, including many genera containing parasitoids of adult insects (Shaw & Huddleston, 1991). It contains also the only genus of the family Braconidae Nees, 1812, comprising pseudohyperparasitoid species, i.e., the genus *Syntretus* Foerster, 1862. The scanty biological information indicate parasitisation of adult Hymenoptera: bees and ichneumonid wasps. The genus and species are comparatively variable, which complicates their identification, especially of small series and of the more variable males. The genera *Exosyntretus* Belokobylskij, 1998, *Parasyntretus* Belokobylskij, 1993, and *Falcosyntretus* Tobias, 1965, are included in the genus *Syntretus*, because at least *Exosyntretus* is a heterogeneous group which is probably closely related to the *S. splendidus* group. Both *Parasyntretus* and *Falcosyntretus* fall within the variation limits of the genus. For *Exosyntretus* the main differences are the reduction of the propodeal sculpture and of a



Figs 1-11, *Syntretus nevelskoi* Belokobylskij, ♀, paratype. 1, wings; 2, hind leg; 3, head, frontal aspect; 4, first metasomal tergite, dorsal aspect; 5, mesosoma, dorsal aspect; 6, head, dorsal aspect; 7, habitus, lateral aspect; 8, hind basitarsus; 9, apex of antenna; 10, inner hind claw; 11, base of antenna. 1, 2, 7: 1.0 × scale-line; 3-6: 1.5 ×; 8-11: 2.5 ×.

vein of the hind wing, but both occurs also in different species groups of the genus *Syntretus* s.s. In *Parasyntretus* the hind wing veins are also reduced in addition to a shortened marginal cell of fore wing (the latter occurs also in *S. breviradialis* spec. nov.). For *Falcosyntretus* the mostly smooth and polished propodeum and to some degree the curved ovipositor are diagnostic (Shaw, 1997; Papp & Shaw, 2000), but both character-states are highly variable in the *S. splendidus* group of the genus *Syntretus*.

Up to now it has been impossible to identify reliably the European species; in the only recent key (Tobias, 1986) ten species are keyed which is only about half of the species present in collections. Another problem is the confusion concerning the valid names; after examination of the available types by the first author only five taxa (of which one is only known from literature) retain their name as listed by Tobias (1986). This was sufficient reason to collaborate on a revision of the European members of the genus; the second author had been studying the genus for over 25 years and had assembled a large collection of material.

For the identification of the subfamily Euphorinae, see van Achterberg (1990, 1993, 1997) and for the terminology used in this paper, see van Achterberg (1988, 1993).

Genus *Syntretus* Foerster, 1862

Syntretus Foerster, 1862: 251; Shenefelt, 1969: 130-133; Shaw, 1985: 431, 1997: 240; Tobias, 1986: 245-246 (translation 1995: 428-431); Belokobylskij, 1993b: 98, 1996 283; Chen & van Achterberg, 1997: 125-131; Belokobylskij, 2000: 377. Type species (by original designation and monotypy): *Microctonus vernalis* Wesmael, 1835 [examined; = *Syntretus idalius* (Haliday, 1833)].

Falcosyntretus Tobias, 1965: 843; Shenefelt, 1969: 35; Tobias, 1986: 247; Shaw, 1997: 240; Belokobylskij, 2000: 390; Papp & Shaw, 2000: 634-635. Type species (by original designation and monotypy): *Falcosyntretus falcifer* Tobias, 1965 [examined]. **Syn. nov.**

Parasyntretus Belokobylskij, 1993a: 60-62 (as subgenus of *Syntretus* Foerster, 1862, from the Oriental region (Vietnam)). Type species (by original designation): *Syntretus amoenus* Belokobylskij, 1993 [examined]. **Syn. nov.**

Exosyntretus Belokobylskij, 1998: 12-14, 2000: 390-391. Type species (by original designation): *Syntretus nevelskoi* Belokobylskij, 1996 [examined]. **Syn. nov.**

Diagnosis.—Tarsal claws angularly bent (but rarely gradually curved, e.g. in *S. politus* (Ruthe)) and (especially fore claws) distinctly bifurcate (figs 10, 31, 138); vein M+CU1 of fore wing unsclerotised, as pigmented trace or completely absent (fig. 1); antenna with 14-33 segments; maxillary palp with 5-6 segments and labial palp with 3 segments; vein cu-a of hind wing absent or largely so (but largely present in the Nearctic *S. muesebecki* Papp & Shaw, 2000); scapus about as long as pedicellus or somewhat longer (figs 11, 65, 111, 130); dorsope absent; laterope present (subgenus *Exosyntretus* Belokobylskij and *S. splendidus* group) or absent; propodeum with large posterior areola or largely smooth and median carina absent or short (but long in *S. shawi* spec. nov.: fig. 25), medio-posteriorly subvertical or gradually lowered; first tergite inserted below condyli of hind coxa; mesopleuron smooth if not mentioned.

Distribution.—Probably cosmopolitan, but no material examined from the Australian region.

Notes.—Contains two named recognised subgenera: *Exosyntretus* Belokobylskij, 1998 (**stat. rev.**) from Palaearctic and Afrotropical regions and *Syntretus* Foerster, 1862 (cosmopolitan except Australian region). *Parasyntretus* and *Exosyntretus* are included

in the genus *Syntretus* because they are most likely derived from a group within the genus *Syntretus*; e.g., *Exosyntretus* species most likely developed from species in the *S. splendidus* group with a short third antennal segment, a distinct laterope and a weakly areolate propodeum, by a reduction of the vein 1-SC+R of the hind wing (which also occurs in the not closely related *S. klugii* (Ruthe)). *Parasyntretus* species probably developed from species in the *S. idalius* group but developed a shortened and widened ovipositor sheath, larger anterior tentorial pits and a strong median carina between the antennal sockets (figs 236, 238, 243). Their exclusion would result in a paraphyletic genus *Syntretus*; provisionally they may be treated as subgenera as a matter of convenience. The Oriental genus *Sculptosyntretus* Belokobylskij, 1993, from Vietnam may have developed within the genus *Syntretus* near the *S. idalius* group (e.g., the shape of the first metasomal tergite, and of the propodeum) but it is provisionally retained separate because of its aberrant eyes and sculpture (figs 244-254).

Key to West Palaearctic species of the genus *Syntretus* Foerster

1. Vein 1-SC+R of hind wing unsclerotised or absent (figs 1, 24); laterope present (figs 7, 26); propodeum with a sessile areola (fig. 5) or with a long median carina (fig. 25) medio-basally; third antennal segment as long as fourth segment or shorter (figs 11, 22, 35); (subgenus *Exosyntretus* Belokobylskij, 1998) 2
- Vein 1-SC+R of hind wing sclerotised, tubular (fig. 33), if rarely reduced (*S. klugii* (Ruthe)) then laterope absent (fig. 124); propodeum without sessile medio-basal areola, usually with a short median carina or smooth (figs 32, 59, 68, 77, 166), rarely with triangular areola (fig. 22); third antennal segment 1.1-1.5 times fourth segment (figs 44, 52, 74, 81); (subgenus *Syntretus* Foerster, 1862) 3
2. Propodeum with long median carina anteriorly (fig. 25); pterostigma elongate triangular, with vein r issued distinctly behind middle of pterostigma (fig. 23); first metasomal tergite robust and posteriorly longitudinally striate (fig. 25); tarsi long setose ventrally (fig. 27); length of fore wing about 2 mm; ovipositor sheath rather wide, obtuse (fig. 32); occipital carina remaining far separated from hypostomal carina ventrally (fig. 33) *S. shawi* spec. nov.
- Propodeum with a sessile areola anteriorly (fig. 13); pterostigma short triangular, with vein r issued submedially from pterostigma (fig. 12); first tergite more slender and posteriorly superficially rugulose, nearly smooth (fig. 13); tarsi moderately setose ventrally (fig. 16); length of fore wing 1.1-1.3 mm; ovipositor sheath slender, pointed (fig. 19); occipital carina meeting hypostomal carina ventrally (fig. 15) *S. minimus* spec. nov.
3. Laterope deep (figs 78, 160, 168, 189), sometimes rather small; median carina of propodeum absent or obsolescent (fig. 77); propodeum gradually declivous posteriorly in lateral view and without carinae (figs 78, 96, 160; but sometimes rather steep and with distinct longitudinal sublateral carinae e.g., in *S. splendidus*: fig. 178); scapus about as large as pedicellus (figs 81, 164); (*S. splendidus* group; including "*Falcosyntretus* Tobias, 1965") 4
- Note. Seem to consist of several (?more or less terminal) branches from the main stem from which *Syntretus* s.s. has developed, and recognition of the genus *Falcosyntretus* Tobias may result in a paraphyletic genus *Syntretus*.
- Laterope absent (figs 40, 51, 60, 69, 87); median carina of propodeum usually distinct

- (figs 37, 48); propodeum usually subtruncate or distinctly concave posteriorly (figs 51, 59, 60, 87); scapus somewhat longer than pedicellus (figs 44, 52, 63, 74, 130) 11
4. Ovipositor sheath about 0.6 times fore wing, about 1.7 times hind tibia and about as long as metasoma; notaulic area densely punctate anteriorly; vein 1-R1 of fore wing about as long as pterostigma or slightly longer (fig. 157); antenna with 24-27 segments (♀ ♂); propodeum with lateral carinae and finely sculptured posteriorly (fig. 158); temple of ♀ largely dark brown or blackish; laterope medium-sized and situated submedially (fig. 160) *S. politus* (Ruthe, 1856)
 - Ovipositor sheath 0.15-0.28 times fore wing, 0.5-0.8 times hind tibia and 0.3-0.5 times as long as metasoma; notaulic area smooth anteriorly, at most with a few punctures; length of vein 1-R1 of fore wing variable, if about as long as pterostigma than antenna with less than 24 segments; propodeum often weakly sculptured posteriorly or completely smooth (figs 77, 184, 202); temple of ♀ usually yellowish-brown; laterope variable, often elongate and large (figs 78, 178, 189, 205, 216) 5
 5. Ovipositor sheath 0.25-0.28 times fore wing, about 0.8 times hind tibia and about half as long as metasoma; vein 1-R1 of fore wing (metacarp) 0.8-0.9(-1.0) times pterostigma (fig. 175); propodeum steep posteriorly and with distinct sublateral carinae and costulae (figs 177, 178); pterostigma of both sexes pale yellowish; third antennal segment hardly longer than pedicellus (fig. 179); upper valve of ovipositor yellowish; vein SR1 of fore wing weakly curved, ending far from apex of fore wing, vein r less distally situated and marginal cell comparatively wide (subtriangular; fig. 175); first metasomal tergite in front of spiracles hardly or not narrowed (fig. 175), rarely distinctly so; antenna with 17-21 segments (♀ ♂)
..... *S. splendidus* (Marshall, 1887)
 - Length of ovipositor sheath 0.13-0.15 times fore wing, 0.4-0.5 times as long as hind tibia and about 0.3 times as long as metasoma; vein 1-R1 of fore wing 1.1-1.5 times pterostigma (figs 75, 182, 201); propodeum gradually lowered posteriorly and usually without distinct sublateral carinae (figs 78, 202); pterostigma (especially of males) often partly or largely infusate; third antennal segment distinctly longer than pedicellus (figs 81, 172); upper valve of ovipositor dark brown; vein SR1 of fore wing often straight, ending close to wing apex and vein r more distally situated and marginal cell of fore wing comparatively narrow (figs 75, 165, 182, 201); first tergite in front of spiracles often narrowed (figs 77, 166, 202); antenna with 15-29 segments 6
 6. Antenna of ♀ with 18-20 (♂: 16-18) segments **and** basal half of first metasomal tergite distinctly cylindrical (especially submedially), and sternite not separated by sutures (fig. 168); vein SR1 of fore wing slightly curved (fig. 165); pterostigma of ♀ pale yellowish, robust, (fig. 165); hind basitarsus of ♀ rather robust (fig. 171); laterope situated behind middle of first tergite and medium-sized to rather small (fig. 168); base of first tergite often dark brown *S. pusio* (Marshall, 1898)
 - Antenna of ♀ with 17-29 segments (♂ 14-23); if 18-20 then basal half of first tergite flattened, trapezoidal, and sternite more or less separated by sutures, subbasally more or less trapezoidal (fig. 78) and/or vein SR1 of fore wing straight (fig. 75); pterostigma of ♀ darkened laterally, and usually less robust (figs 75, 93, 182); hind basitarsus of ♀ variable, usually more slender (figs 80, 99, 187); position of laterope variable, situated near middle of first tergite and large, subbasally or near

- spiracle (figs 78, 96, 205); colour of base of first tergite variable 7
7. Antenna of ♀ with 17-18 (♂: 14-17) segments; propodeum of both sexes smooth posteriorly or nearly so (fig. 77); pterostigma comparatively wide basally (fig. 75); laterope large and very deep (fig. 78) *S. flevo* spec. nov.
- Antenna of ♀ with 20-29 (♂: 17-23) segments; if with 17 segments then propodeum with distinct areola posteriorly (fig. 94); pterostigma more slender basally (figs 93, 201); laterope medium-sized to large and usually less deep (figs 96, 205, 216) 8
8. Propodeum of ♀ posteriorly with a more or less developed areola (fig. 94); first metasomal tergite distinctly convex apically (fig. 94); laterope extending behind middle of tergite up to near or below spiracle (fig. 96); frons smooth laterally (fig. 97); area between stemmaticum and eye usually yellowish; third and following antennal segments of ♀ usually more slender (fig. 100); marginal cell of fore wing slightly more robust (fig. 93); frons without short median carina anteriorly *S. fuscivalvis* spec. nov.
- Propodeum of ♀ strongly shiny and largely smooth, except for some transverse sculpture (figs 202, 214, but more or less areolate in ♂, rarely also in ♀); first tergite flattened apically (figs 184, 202, 214), rarely distinctly convex; laterope more basally situated and usually remaining distinctly removed from spiracle (figs 189, 205, 216); frons variable, if without some punctures laterally then area between stemmaticum and eye dark brown; third and following antennal segments of ♀ more robust (figs 188, 212, 220); marginal cell of fore wing usually more slender (figs 182, 213); frons with short median carina anteriorly 9
9. Frons nearly always with some punctures laterally (figs 207, 208); area between stemmaticum and eye of ♀ yellowish, rarely dark brown; area in front of anterior ocellus less declivous (fig. 207); antenna of ♀ with (19-)23-29 segments (usually 24-27; 19-23 in ♂); hind basitarsus 6.5-8.0 times as long as wide (fig. 209); length of fore wing (2.1-)2.5-3.0 mm; basal half of first metasomal tergite usually parallel-sided (fig. 210), but sometimes distinctly constricted in front of spiracles (fig. 202); sixth antennal segment 1.4-1.7 times as long as wide (fig. 212); fore femur cylindrical, rather inflated (fig. 206); hind tarsus of ♀ more or less infusate; scutellum usually distinctly convex (fig. 205); ocelli somewhat larger (fig. 208) *S. xanthocephalus* (Marshall, 1887)
- Note. If the inner tooth of tarsal claws is wider than apical tooth (fig. 224), see the closely related East Palaearctic *S. falcifer* (Tobias, 1965) **comb. nov.** described from Kirgizia.
- Frons without punctures laterally (figs 186, 218); area between stemmaticum and eye of ♀ dark brown; area in front of anterior ocellus more declivous (figs 186, 218); antenna of ♀ usually with 20-22 segments (but up to 25; 18-22 in ♂); hind basitarsus 5.7-6.7(-7.4) times as long as wide (figs 187, 219); length of fore wing 1.8-2.4 mm, rarely up to 2.9 mm; basal half of first metasomal tergite usually distinctly constricted in front of spiracles (figs 184, 214); sixth antennal segment 1.7-2.4 times as long as wide (figs 188, 220); fore femur less inflated, rather compressed (figs 190, 222); colour of hind tarsus of ♀ variable, often fourth segment paler than telotarsus; scutellum usually weakly convex (figs 189, 216); ocelli somewhat smaller 10
10. Apex of hind tibia and hind tarsus (except telotarsus and rarely fourth segment) of ♀ brownish-yellow, colour of apex of tibia similar to remainder of tibia; antenna

- of ♀ with 20-23 segments; marginal cell of fore wing less slender, slightly triangular and vein 1-R1 1.3-1.4 times as long as pterostigma (fig. 213); face distinctly higher than wide (fig. 217); hind basitarsus 5.7-6.7 times as long as wide (fig. 219) *S. zuijleni* spec. nov.
- Apex of hind tibia infusate, distinctly darker than remainder of tibia, and hind tarsus of ♀ dark brown; antenna of ♀ with 24-25 segments; marginal cell of fore wing slender, subparallel-sided and vein 1-R1 1.4-1.5 times as long as pterostigma (fig. 182); face subquadrate (fig. 185); hind basitarsus 7.4-7.7 times as long as wide (fig. 187) *S. stenochora* spec. nov.
11. Vein 1-R1 (= metacarp) of fore wing largely absent (figs 57, 66); fourth and following segments of antenna short, robust (figs 74, 127; also in ♂!); mesoscutum at least anteriorly distinctly punctate; pterostigma enlarged, subtriangular (figs 57, 66, 122); vein 2-SC+R of hind wing 2.0-2.3 times as long as vein 1r-m of hind wing and apically more or less desclerotised (figs 58, 67, 123; as veins SC+R1 and R1 of hind wing); propodeum matt and largely coarsely sculptured dorsally and medio-posteriorly distinctly concave (figs 59, 68, 128); face densely setose, and clypeus with very long setae (figs 62, 72, 126); (*S. elegans* group) 12
 - Vein 1-R1 of fore wing complete, sclerotised (figs 36, 129, 193); fourth and following segments of antenna medium-sized, comparatively slender (figs 44, 52, 92, 130; also in ♂); mesoscutum smooth; pterostigma variable, usually not subtriangular (figs 47, 83, 101); vein 2-SC+R of hind wing 1.0-1.4 times as long as vein 1r-m of hind wing and completely sclerotised (figs 45, 85, 102, 129); propodeum shiny and smooth between carinae dorsally and medio-posteriorly at most weakly concave (figs 48, 84, 103); face rather sparsely setose and clypeus usually with shorter setae (fig. 53); (*S. idalius* group) 14
 12. Antenna with 27-33 segments (♀ ♂); first metasomal tergite weakly widened posteriorly, slender (fig. 68); eye in lateral view directed to face (fig. 72); fourth-sixth antennal segments very robust (fig. 74) *S. elegans* (Ruthe, 1856)
 Note.— *Syntretus dzieduszykii* Niezabitowski, 1910, probably would run to here; it has the mesoscutum longitudinally striate; temple in dorsal view very short; ovipositor directed upward; antenna of ♀ with about 29 segments; body black with yellowish face; [Ukraine]. It may be near *S. elegans* since 29 segments in this group occur only in *S. elegans*, but it should have a less sculptured mesoscutum, a largely rugose propodeum and longer temples! It may be similar to the East Palaearctic *S. planifacies* Belokobylskij, 1996, which has the head in dorsal view strongly transverse (as is the face), most of the mesoscutum strongly sculptured and the fore femur strongly inflated.
 - Antenna with 19-22 segments (♀ ♂); first tergite distinctly widened posteriorly, subtriangular and rather robust (figs 59, 128); eye in lateral view directed to clypeus (fig. 62); fourth-sixth antennal segments less robust (figs 63, 127) 13
 13. Fourth and following antennal segments comparatively robust (fig. 127); head dorsally and mesoscutum blackish; hind coxa dark brown or blackish basally; face coarsely sculptured; scapus, pedicellus, third and fourth antennal segments largely or completely dark brown; frons densely punctate and posteriorly with a pair of shallow converging grooves, becoming deep near posterior ocelli (fig. 125); precoxal area extensively sculptured anteriorly, partly rugulose
 *S. klugii* (Ruthe, 1856)
 - Fourth and following antennal segments less robust (fig. 63); head dorsally (except stemmaticum) and mesoscutum yellowish-brown, but mesoscutum may be partly

- infusate; hind coxa yellowish-brown basally; face more finely sculptured; scapus, pedicellus, and usually third and fourth antennal segments yellowish-brown; frons remotely and more finely punctate (typical) or largely smooth ("*microphthalmus*") and posteriorly without converging grooves (fig. 61); precoxal area largely smooth or punctate anteriorly *S. daghestanicus* Tobias, 1976
 Note.— The Nearctic *S. vigilax* (Provancher, 1880) is similar, but the face is distinctly punctate and the antenna of ♀ consists of 21 segments.
14. Vein 1-R1 of fore wing about 0.7 times length of pterostigma (fig. 36; as in "*Para-syntretus* Belokobylskij, 1993"); vein SR1 of fore wing distinctly curved, ending halfway between apex of pterostigma and apex of wing, and vein 2-R1 long (fig. 36); propodeum with a triangular basal areola (fig. 37); antescutal depression wide (fig. 46) *S. breviradialis* spec. nov.
- Vein 1-R1 of fore wing 1.0-1.3 times longer than pterostigma (fig. 129); vein SR1 of fore wing straight or nearly so, ending much closer to wing apex than to apex of pterostigma, and vein 2-R1 short (fig. 129); propodeum without a basal areola, at most with a short median carina (fig. 132); antescutal depression narrower (fig. 132) 15
15. Frons completely setose and with a distinct groove (figs 91, 197); face comparatively transverse (fig. 88); metasoma usually completely dark brown or nearly so; head in dorsal view parallel-sided behind eyes (figs 91, 197); hind coxa dark brown 16
- Frons only laterally setose and with an indistinct groove or smooth (fig. 134), rarely extensively setose (but medially glabrous) and with distinct groove; face less transverse (fig. 131); metasoma after first tergite brownish-yellow or blackish; head in dorsal view more or less narrowed behind eyes (figs 119, 134); hind coxa usually yellowish 17
 Note.— A male from Corsica (NMS) has the frons completely glabrous!
16. Antenna with 16-19 segments (♀ ♂); mesoscutum smooth and glabrous; frons dark brown medially, contrasting with pale yellowish vertex; in lateral view eye somewhat protruding anteriorly (fig. 89); clypeus sparsely punctate (fig. 89); mesoscutum with a wide yellowish V-shaped patch or completely dark brown
 *S. fuscicoxis* spec. nov.
- Antenna of ♀ with 23-25 segments; mesoscutum partly punctate (at least anteriorly) and densely setose; frons and vertex dark brown; eye less protruding anteriorly in lateral view (fig. 196); clypeus densely punctate (fig. 196); mesoscutum completely black *S. taegeri* spec. nov.
17. Antenna with 16-17 segments (♀ ♂); mesoscutum completely blackish or dark brown; first metasomal tergite comparatively robust (fig. 147); length of ovipositor sheath about 0.11 times fore wing; vein r of fore wing short (fig. 146); frons dark brown *S. parvicornis* (Ruthe, 1862)
- Antenna of ♀ with 18-27 segments; if 18-19 then mesoscutum yellowish; first tergite more slender (figs 48, 110, 114); length of ovipositor sheath 0.14-0.21 times fore wing; vein r of fore wing medium-sized (figs 47, 129); frons usually yellowish 18
18. Antenna of ♀ with 24-27 segments, maximum width of eye in lateral view 0.9-1.2 times maximum width of temple (fig. 53); frons laterally widely setose; fourth and following antennal segments robust (fig. 52); first metasomal tergite of ♀

- laterally smooth or nearly so (fig. 48), of ♂ more or less sculptured *S. conterminus* (Nees, 1834)
- Antenna of ♀ with 19-24 segments, if 24 segments then maximum width of eye in lateral view 1.3-1.7 times maximum width of temple (fig. 136); frons laterally at most narrowly setose; fourth and following antennal segments comparatively slender (figs 104, 111, 120, 130); first tergite variable, often laterally more or less sculptured (fig. 110) 19
19. Eyes in lateral view anteriorly more or less triangularly protruding (figs 135, 136, 139); maximum width of eye in lateral view of ♀ 1.3-1.7 times maximum width of temple (fig. 136; with full view of temple!); frons near anterior ocellus rather bulging, more or less subhorizontal (fig. 135); scapus about as long as pedicellus (fig. 130); first metasomal tergite of ♀ smooth dorsally (fig. 141), rarely rugulose basally; frons yellowish-brown or brownish medio-posteriorly; length of eye of ♀ 1.7-1.8 times temple (fig. 134); clypeus and face pale yellowish; fourth antennal segment comparatively robust (fig. 130); head in frontal view comparatively transverse (fig. 131) *S. ocularis* spec. nov.
- Eyes in lateral view suboval and anteriorly weakly protruding (fig. 117); maximum width of eye in lateral view of ♀ 0.9-1.2 times maximum width of temple (fig. 117); frons near anterior ocellus reclivous (fig. 118); scapus 1.2-1.3 times as long as pedicellus (figs 111, 120); first tergite of ♀ variable, often weakly sculptured dorsally (fig. 110); frons usually blackish medio-posteriorly; length of eye of ♀ 1.3-1.6 times temple (fig. 119; difficult to measure because of shape of head); clypeus and face usually yellowish-brown or dark brown; fourth antennal segment less robust (figs 104, 111, 120); head in frontal view normal *S. idalius* (Haliday, 1833)

Subgenus *Exosyntretus* Belokobylskij, 1998 stat. rev.

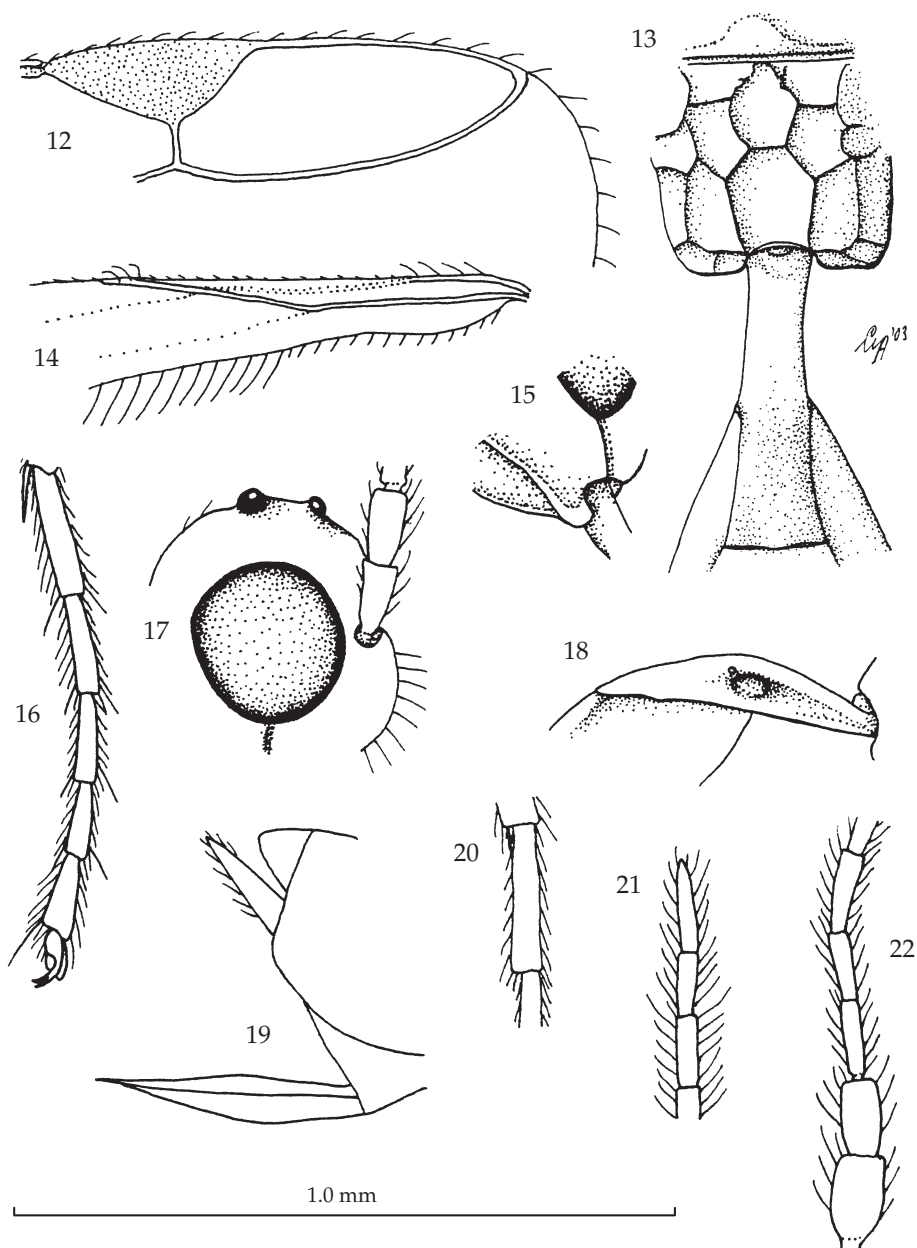
Exosyntretus Belokobylskij, 1998: 12-14.

Diagnosis.— Vein 1-SC+R of hind wing unsclerotised or absent (figs 1, 14, 24); veins SC+R1, 2-SC+R and R1 of hind wing sclerotised, tubular (figs 1, 14, 24); propodeum with a sessile areola (fig. 5) or with a long median carina (fig. 25) medio-basally; third antennal segment shorter than fourth segment (fig. 35, but of equal length in type species: fig. 11); laterope present (fig. 18); ovipositor sheath more or less widened basally (fig. 19) and if widened apically, also only apically setose (fig. 32).

Notes.— Described from the East Palaearctic region and here recorded for the first time from Europe. Additional specimens have been examined from the Afrotropical region (Uganda; RMNH), one species has the laterope situated basally instead of sub-medially and is close to *S. shawi* spec. nov.

Syntretus (*Exosyntretus*) *minimus* spec. nov. (figs 12-22)

Type material.— Holotype, ♀ (ZSM), “[Germany], Bechtaler Wald C5K, 15-22.v.[19]85, 170 m ü M, MV04, Südbaden”, “Hilpert”. Paratype, 1 ♂ (ZSM), topotypic, but 17-24.vii.1985, A4K. For additional data see Hilpert (1989).



Figs 12-22, *Syntretus minimus* spec. nov., ♀, holotype. 12, pterostigma and marginal cell of fore wing; 13, propodeum and first metasomal tergite, dorsal aspect; 14, basal half of hind wing; 15, occipital carina ventrally; 16, fore tarsus; 17, head, dorso-lateral aspect; 18, first tergite, lateral aspect; 19, ovipositor and ovipositor sheath; 20, hind basitarsus; 21, apex of antenna; 22, base of antenna. 12, 14: 1.0 × scale-line; 13: 1.5 ×; 15, 16, 20-22: 1.7 ×; 17-19: 1.6 ×.

Holotype, ♀, length of fore wing 1.35 mm, length of body 1.4 mm.

Head.— Antenna with 13 segments, fourth and following antennal segments slender and moderately bristly setose (figs 21, 22), scapus as long as pedicellus (fig. 22), third antennal segment distinctly longer than pedicellus and slightly longer than fourth segment, third, fourth, sixth and penultimate segments 2.2, 2.1, 2.2, and 2.0 times as long as wide, respectively (figs 21, 22); length of maxillary palp 0.8 times height of head; face smooth, rather transverse and with long setosity (fig. 17); clypeus smooth, distinctly convex, reaching lower level of eyes, setae long; frons smooth, glabrous (including laterally) and without median groove or carina, rather flat in front of anterior ocellus; ocelli small; eye nearly circular, not protruding anteriorly (fig. 17); eye in dorsal view 1.8 times as long as temple; temples roundly narrowed behind eyes; length of malar space 0.8 times basal width of mandible; occipital carina meeting hypostomal carina ventrally (fig. 15).

Mesosoma.— Antescutal depression minute; mesoscutum smooth (including notaulic area anteriorly), glabrous; notauli absent; scutellar sulcus only finely crenulate; scutellum weakly convex, smooth, medio-posteriorly without depression; metapleuron mainly smooth medially, except some rugae; propodeum anteriorly with a medium-sized sessile areola, posteriorly gradually declivous and with a large subquadrate areola, laterally reticulate and with short costulae (fig. 13).

Wings.— Fore wing: basal half of pterostigma rather robust, vein r emitted somewhat after middle of pterostigma (fig. 12); vein 1-R1 1.1 times as long as pterostigma, complete; vein SR1 distinctly curved, ending somewhat removed from apex of fore wing and marginal cell wide (fig. 12); basal and subbasal cells of fore wing distinctly less densely setose than other cells. Hind wing: vein 1r-m not separated from vein 2-SC+R (fig. 14).

Legs.— Length of femur, tibia and basitarsus of hind leg 4.2, 7.7 and 4.8 times as long as their maximum width, respectively; hind basitarsus comparatively robust (fig. 20); fore femur rather compressed, 4.4 times longer than wide; tarsi normally setose ventrally and tarsal claws comparatively small (fig. 16).

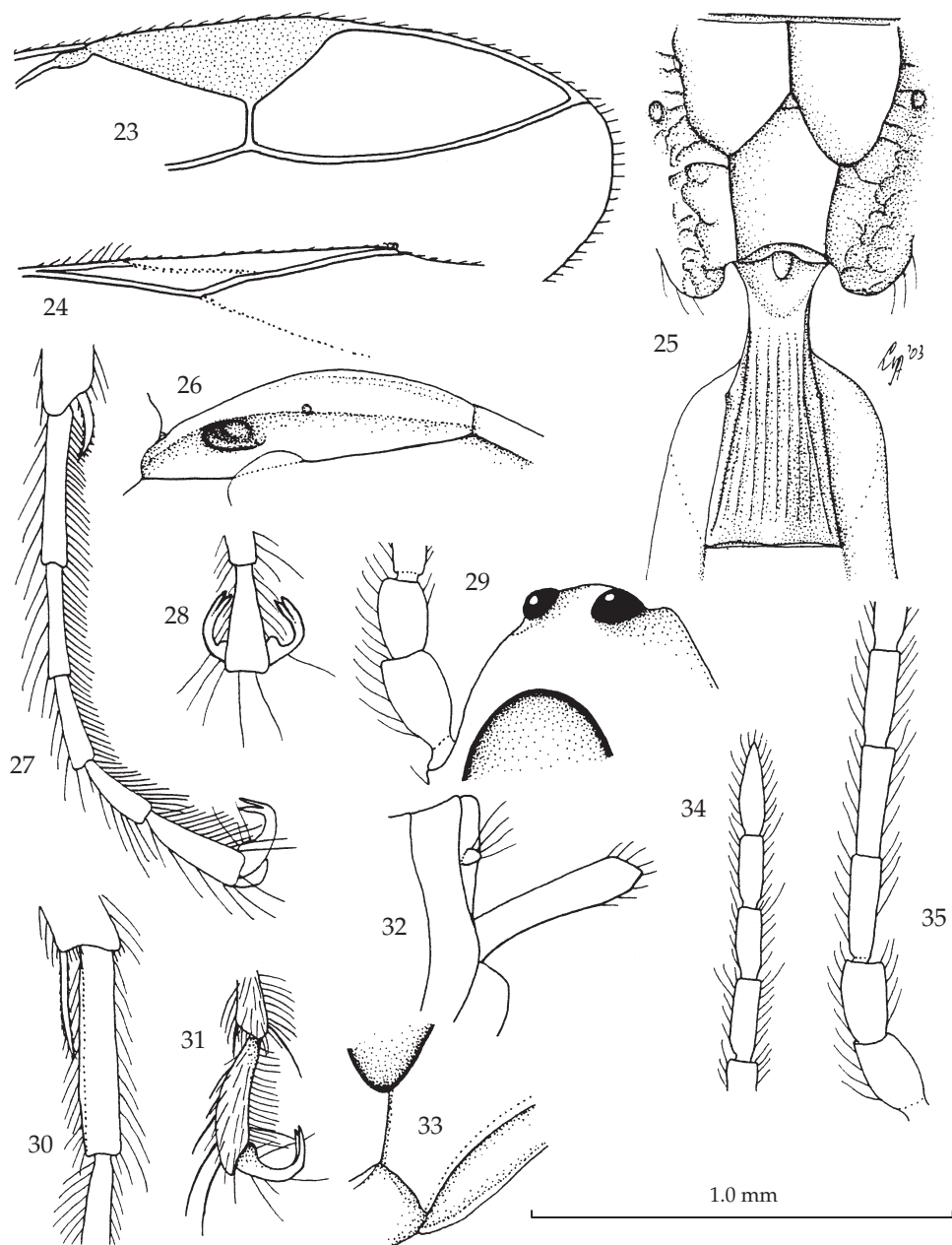
Metasoma.— First tergite slender, parallel-sided (fig. 13), superficially rugulose, without a median carina subbasally and without small depressions posteriorly, in front of spiracles not narrowed (fig. 13), basal half of first tergite not widened basally and with dorso-lateral carina, flattened basally (trapezoid-shaped), and sternite separated by sutures, notum posteriorly flattened (fig. 18), laterally narrowly crenulate; laterope deep, large and situated near middle of tergite and somewhat removed from spiracle (fig. 18); ovipositor sheath slender, evenly setose, and pointed apically (fig. 19), 0.07 times fore wing, 0.25 times hind tibia and 0.2 times as long as metasoma; ovipositor straight (fig. 19).

Colour.— Yellowish-brown; head dorsally, mesoscutum and scutellum somewhat darkened; antenna (except for four basal segments), apical 0.6 of metasoma and ovipositor sheath dark brown; telotarsi and pterostigma (except basally) rather dark brown; wing membrane subhyaline; both valves of ovipositor equally brown.

Distribution.— Germany. Collected in May-July.

Variation.— Male paratype is very similar to holotype, it has 13 antennal segments with fifth segment yellowish; length of fore wing 1.1 mm.

Notes.— The only other species of the genus with a similar areolation of the



Figs 23-35, *Syntretus shawi* spec. nov., ♀, holotype. 23, pterostigma and marginal cell of fore wing; 24, basal half of hind wing; 25, propodeum and first metasomal tergite, dorsal aspect; 26, first tergite, lateral aspect; 27, fore tarsus; 28, hind claws, dorsal aspect; 29, head, dorso-lateral aspect; 30, hind basitarsus; 31, inner hind claw; 32, ovipositor and ovipositor sheath; 33, occipital carina ventrally; 34, apex of antenna; 35, base of antenna. 23, 24: 1.0 × scale-line; 25: 1.8 ×; 26-35: 2.0 ×.

propodeum, the occipital carina meeting the hypostomal carina ventrally and a similar shaped ovipositor sheath is the type species, the East Palaearctic *E. nevelskoi* (Belokobylskij, 1996). It has the first metasomal tergite slender basally, the medio-posterior areola of the propodeum wider, subcircular (fig. 4), the third antennal segment more developed (fig. 11), the metapleuron reticulate-rugose (fig. 7), and the body and the fore wing are longer.

Syntretus (*Exosyntretus*) *shawi* spec. nov.
(figs 23-35)

Type material.— Holotype, ♀ (NMS), “[France], Corsica: Corte, Val de Restonica, 500 m, Hôtel Colonnal, [at] light, 29.vii-3.viii.[20]01, M.R. Shaw”.

Holotype, ♀, length of fore wing 2.1 mm, length of body 2.2 mm.

Head.— Antenna with 18 segments, fourth and following antennal segments slender and moderately bristly setose (figs 34, 35), scapus hardly longer than pedicellus (fig. 35), third antennal segment distinctly longer than pedicellus and 0.9 times as long as fourth segment, third, fourth, sixth and penultimate segments 3.0, 3.3, 2.7, and 2.2 times as long as wide, respectively (figs 34, 35); length of maxillary palp 1.1 times height of head; face smooth, rather transverse and with long setosity; clypeus smooth, distinctly convex, reaching above lower level of eyes, setae long; frons smooth, glabrous (including laterally) and without a median groove or carina, rather flat in front of anterior ocellus; ocelli rather large; eye elliptical, not protruding anteriorly; eye in dorsal view 1.6 times as long as temple; temples parallel-sided behind eyes; length of malar space 0.7 times basal width of mandible; occipital carina remain far separated from hypostomal carina.

Mesosoma.— Antescutal depression narrow; mesoscutum smooth (including notaulic area anteriorly), glabrous; notauli absent; scutellar sulcus with two carinae; scutellum slightly convex, smooth, medio-posteriorly indistinctly crenulate; metapleuron reticulate, but anteriorly smooth; propodeum anteriorly with a long median carina, posteriorly gradually declivous and with a large areola, laterally with rugosity and costulae (fig. 25).

Wings.— Fore wing: basal half of pterostigma rather robust, vein r emitted distinctly after middle (fig. 23); vein 1-R1 as long as pterostigma, complete; vein SR1 weakly curved, ending near apex of fore wing and marginal cell comparatively wide (fig. 23); basal and subbasal cells of fore wing nearly as densely setose as other cells. Hind wing: vein 1r-m not separated from vein 2-SC+R (fig. 24).

Legs.— Length of femur, tibia and basitarsus of hind leg 4.5, 8.6 and 5.0 times as long as their maximum width; hind basitarsus comparatively robust (fig. 30); fore femur rather inflated, 4.6 times longer than wide; tarsi with long setosity ventrally and tarsal claws comparatively large (figs 27, 28, 31).

Metasoma.— First tergite rather short (fig. 25), longitudinally striate, with a short median carina subbasally and without small depressions posteriorly, weakly narrowed in front of spiracles (fig. 25), basal half of first tergite weakly widened basally and with a distinct dorso-lateral carina, flattened basally (trapezoid-shaped), and sternite separated by sutures, notum posteriorly flattened (fig. 26); laterally narrowly crenulate; laterope very deep, large, situated between middle and base of tergite and distinctly

removed from spiracle (fig. 26); ovipositor sheath widened and obtuse apically and only apically setose (fig. 32), 0.08 times fore wing, 0.25 times hind tibia and 0.2 times as long as metasoma; ovipositor not visible, probably straight.

Colour.— Yellowish-brown; antenna (except for two basal segments) dark brown; first tergite, apical half of metasoma dorsally, and ovipositor sheath somewhat darkened; apical half of hind tibia and tarsus slightly darker than remainder of legs; palpi, tegulae, coxae, trochanters, second and anterior half of third metasomal segments whitish; veins yellowish-brown, but veins C+SC+R, and r of fore wing, and pterostigma brown; wing membrane subhyaline; both valves of ovipositor brown, but upper valve slightly darker.

Distribution.— France (Corsica). Collected in July–August.

Note.— It is a great pleasure to name this species after its collector, Dr Mark Shaw (Edinburgh) who greatly enlarged our knowledge of the biology of the Braconidae.

Subgenus *Syntretus* Foerster, 1862

Syntretus Foerster, 1862: 251.

Diagnosis.— Veins 1-SC+R, SC+R1, 2-SC+R and R1 of hind wing sclerotised, tubular (figs 38, 76), but these veins reduced in *S. elegans* group (fig. 58), largely so in *S. klugii* (Ruthe) or only veins SC+R1 and R1 (e.g. *S. elegans* (Ruthe): fig. 67); pterostigma triangular, elongate or comparatively short (figs 36, 47, 57, 75, 93), with vein r issued from pterostigma behind middle (figs 47, 57); propodeum without sessile medio-basal areola, usually with short median carina (figs 48, 59, 84) or largely smooth (figs 77, 166), rarely with triangular basal areola (fig. 37); third antennal segment longer than fourth segment (figs 44, 52, 104, 111); laterope present (*S. splendidus* group: figs 78, 160) or absent (figs 51, 87, 105); ovipositor sheath slender and largely setose, except in *S. breviradialis* spec. nov. (fig. 43).

Distribution.— Cosmopolitan, but no material seen from Australian region. Few comprehensive keys are published; only for the East Palaearctic region is a fine key (but unfortunately in Russian) made available by Belokobylskij (2000), and Papp & Shaw (2000) revised the Nearctic species with a smooth propodeum as "*Falcosyntretus*".

Note.— Shaw (1985) and Papp & Shaw (2000) treat the genus *Falcosyntretus* Tobias, 1965, as valid genus. It should be monophyletic on the basis of three synapomorphies: the propodeum being mostly smooth and polished, the petiolate first metasomal tergite being smooth and polished and the curved ovipositor, which is as long as or longer than the first metasomal tergum. As shown in this paper species belonging to this group may have areolate sculpture on the propodeum and some sculpture on the first tergite (especially males and laterally), which leaves only the curved ovipositor. As admitted by Papp & Shaw (2000) the ovipositor may appear in *Falcosyntretus* curved or straight, and somewhat shorter or longer than the first tergite depending on its position or degree of exertion at death; this condition also arises in the subgenus *Exosyntretus*. Actually in the *S. splendidus* group the ovipositor is only falcate when exerted and often comparatively little; it bends down because of the internal bending mechanism (Quicke et al., 1999). In conclusion, the genus *Falcosyntretus* Tobias, 1965, has to be synonymised under *Syntretus*, because its main difference, the presence of the laterope, is considered to be a plesiomorphous character-state.

Syntretus (S.) *breviradialis* spec. nov.
(figs 36–46)

Type material.— Holotype, ♀ (NMW), "[Austria], Spitzzicken, Bgld., [M.] Fischer / 18.vii[19]58".

Holotype, ♀, length of fore wing 1.7 mm, length of body 2.0 mm.

Head.— Antenna with 15 segments, fourth and following antennal segments slender and moderately bristly setose (figs 39, 44), scapus somewhat longer than pedicellus (fig. 44), third antennal segment distinctly longer than pedicellus and as long as fourth segment, third, fourth, sixth and penultimate segments 3.0, 2.3, 1.5, and 1.7 times as long as wide, respectively (figs 39, 44); length of maxillary palp 0.7 times height of head; face smooth, comparatively narrow and with long setosity (fig. 41); clypeus punctate, distinctly convex, reaching lower level of eyes (fig. 41), setae long; frons smooth, glabrous except lateral setosity and without median groove or carina, rather flat in front of anterior ocellus; eye elliptical, not protruding anteriorly (fig. 41); eye in dorsal view as long as temple; temples roundly narrowed behind eyes (fig. 42); length of malar space 0.9 times basal width of mandible; occipital carina almost reaching hypostomal carina, subparallel ventrally.

Mesosoma.— Antescutal depression wide and with pronope (fig. 46); mesoscutum smooth (including notaulic area anteriorly), more slender than in most other species (fig. 46), glabrous; notauli absent; scutellum rather convex (fig. 40), smooth, medio-posteriorly indistinctly impressed; metapleuron smooth; propodeum anteriorly rather long, and with minute median carina connected to large triangular areola, posteriorly gradually declivous and with wide areola and with costulae (fig. 37).

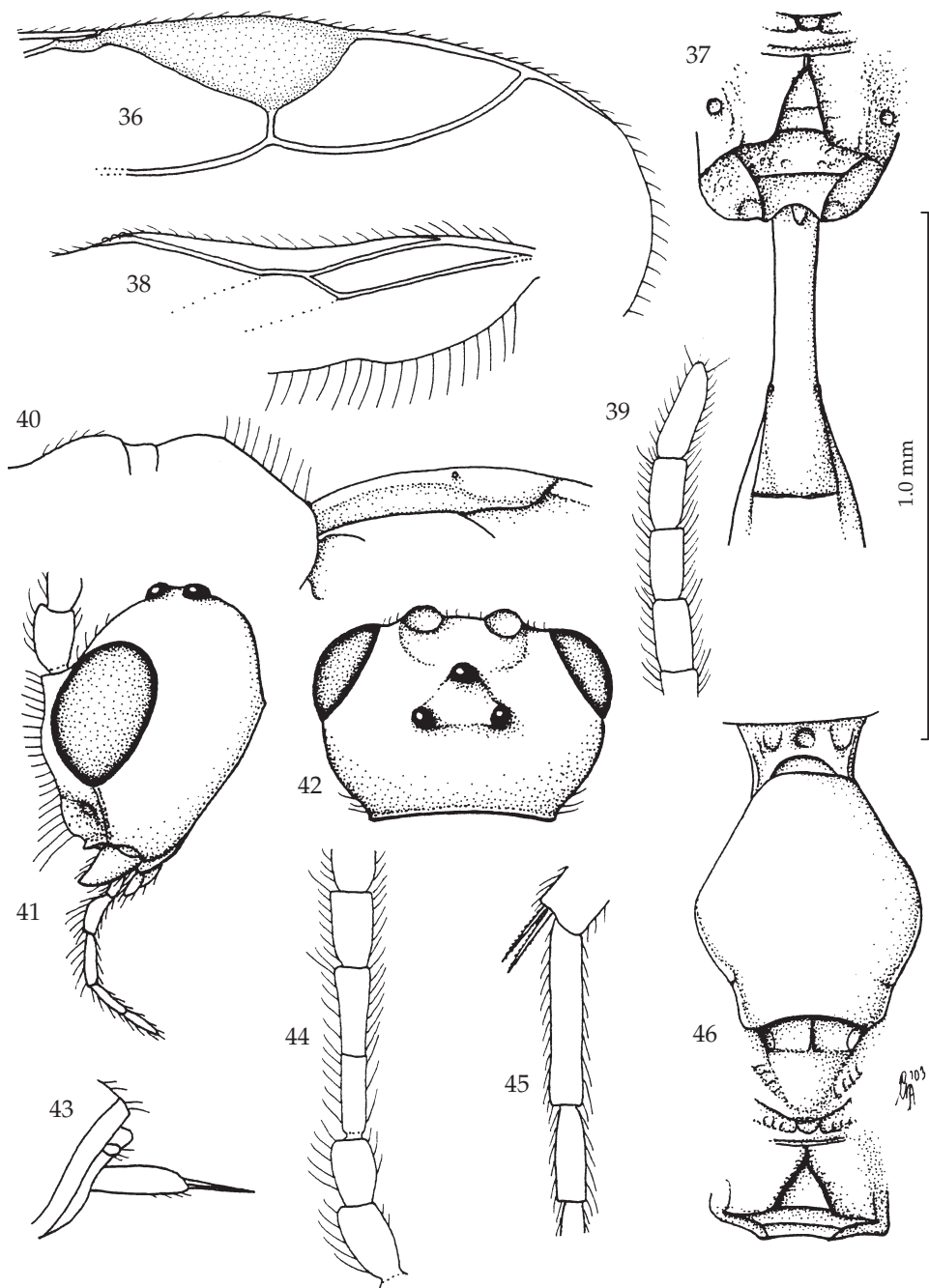
Wings.— Fore wing: basal half of pterostigma rather robust, vein r emitted distinctly after middle (fig. 36); vein 1-R1 0.7 times as long as pterostigma, complete; vein SR1 curved, ending halfway between apex of fore wing and apex of pterostigma; marginal cell wide (fig. 36); basal and subbasal cells of fore wing less densely setose than apical cells. Hind wing: vein 1r-m medium-sized, slightly shorter than vein 2-SC+R (fig. 38); veins sclerotised.

Legs.— Length of femur, tibia and basitarsus of hind leg 3.8, 10.7 and 5.0 times as long as their maximum width, respectively; hind basitarsus comparatively slender (fig. 45); fore femur rather inflated, 3.8 times longer than wide.

Metasoma.— First tergite long, in lateral view nearly straight (fig. 37), smooth, no median carina in front of spiracles and without small depressions posteriorly, in front of spiracles parallel-sided, not narrowed (fig. 37), first tergite not widened basally (fig. 41), cylindrical basally, and sternite not separated by sutures, notum posteriorly flattened (fig. 40); laterally smooth, without dorso-lateral carina; laterope absent (fig. 40); ovipositor sheath rather wide and largely glabrous (fig. 43), 0.15 times fore wing, 0.4 times hind tibia and 0.25 times as long as metasoma.

Colour.— Yellowish-brown; antenna (except for three basal segments and base of fourth segment), head dorsally, mesosoma dorsally (except pronotum), apical half of metasoma dorsally, and ovipositor sheath dark brown or blackish; telotarsi somewhat darkened; veins of fore wing and pterostigma yellowish-brown, but margins of pterostigma, and veins C+SC+R and 1-R1 brown; wing membrane subhyaline; both valves of ovipositor brown.

Distribution.— Austria.



Figs 36-46, *Syntretus breviradialis* spec. nov., ♀, holotype. 36, pterostigma and marginal cell of fore wing; 37, propodeum and first metasomal tergite, dorsal aspect; 38, basal half of hind wing; 39, apex of antenna; 40, propodeum and first tergite, lateral aspect; 41, head, lateral aspect; 42, head, dorsal aspect; 43, ovipositor and ovipositor sheath; 44, base of antenna; 45, hind basitarsus; 46, mesosoma, dorsal aspect. 36, 38: 1.0 × scale-line; 37, 40-42, 46: 1.2 ×; 39, 44, 45: 1.5 ×; 43: 1.8 ×.

Syntretus (*S.*) *conterminus* (Nees, 1834)
(figs 47-56)

Perilitus conterminus Nees, 1834: 32 [♀ with 27 antennal segments, not ♂ with 21 segments; type series from Germany, Sickershausen (= near Kitzingen, SE of Würzburg) lost].

Syntretus conterminus; Shenefelt, 1969: 130-131; Belokobylskij, 2000: 390 (as synonym of *S. vernalis*).

Syntretus vernalis; Tobias, 1986: 246 (translation: 430).

Material examined from: **Austria** (Piesting); **England** (Abbots Moss, Cheshire, *Quercus/Betula/Pinus* wood); **France** (Sospel); **Germany** (near Krefeld; Tsthoof (? near Berlin, det. Konow as *S. conterminus*); **Ireland** (Bahana Wood, Co. Carlow); **Netherlands** (Leersum, Utr., Zuilensteinsche Bosch); **Scotland** (Coire Choille Chuilc., Crianlarich, Perth., native pineforest); and **Spain** (Barcelona, Montseu, on *Fagus*) (DEI, NMS, NMW, RMNH, USNM).

Redescribed ♀ (RMNH; "France (06), Sospel, 26.v.1991, M.J. Gijswijt"), length of fore wing 3.0 mm, length of body 3.6 mm.

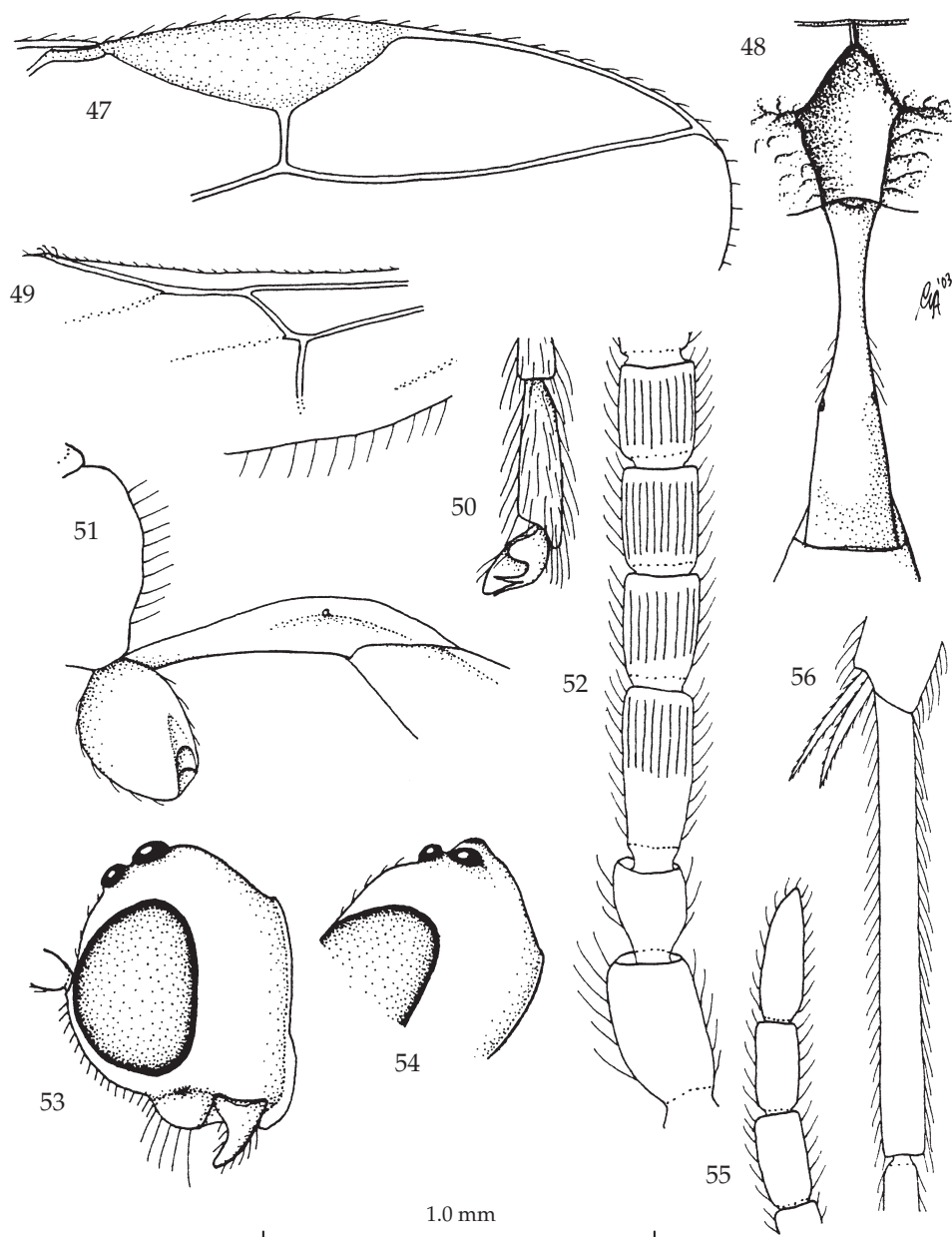
Head.— Antenna with 27 segments, fourth and following antennal segments rather robust (figs 52, 55), scapus 1.7 times longer than pedicellus (fig. 52), third antennal segment much longer than pedicellus and 1.3 times as long as fourth segment, third, fourth, sixth and penultimate segments 2.6, 1.8, 1.4 and 1.8 times as long as wide, respectively (figs 52, 55); length of maxillary palp equal to height of head; face smooth, transverse and with medium-sized setosity; clypeus distinctly convex, with some punctures and remainder smooth, reaching lower level of eyes, and with long setae; frons medially smooth and glabrous, but widely setose and punctulate laterally, and with weak median groove, rather convex in front of anterior ocellus (fig. 54); eye nearly round, not protruding anteriorly, its maximum width equal to width of temple with full view of temple; eye in dorsal view 1.3 times as long as temple, in lateral view 1.2 times temple (fig. 53); temples weakly roundly narrowed behind eyes; length of malar space equal to basal width of mandible; vertex in lateral view moderately protruding, about 0.3 times height of eye above upper level of eyes (fig. 53); occipital flange large, hyaline and lamelliform (fig. 53).

Mesosoma.— Antescutal depression medium-sized, rather shallow; mesoscutum smooth (including notaulic area anteriorly), glabrous, except anteriorly; notauli absent; scutellum weakly convex, smooth; metapleuron smooth, but rugose ventrally; propodeum anteriorly short and with coarse median carina, posteriorly subvertical and with coarse areola, areola laterally and latero-posterior area distinctly rugose and with costulae (fig. 48).

Wings.— Fore wing: basal half of pterostigma rather robust, vein r emitted distinctly after middle and 0.7 times width of pterostigma (fig. 47); vein 1-R1 1.1 times as long as pterostigma, complete; vein SR1 nearly straight, ending close to apex of fore wing and marginal cell wide (fig. 47); basal and subbasal cells of fore wing less densely setose as other cells. Hind wing: vein 1r-m rather long, as long as vein 2-SC+R (fig. 49); vein cu-a distinctly sclerotised basally.

Legs.— Length of femur, tibia and basitarsus of hind leg 5.5, 12.2 and 9.2 times as long as their maximum width, respectively; hind tibia straight apically; hind basitarsus slender (fig. 56); fore femur rather slender and compressed, 5.8 times longer than wide.

Metasoma.— First tergite elongate and smooth, in front of spiracles distinctly



Figs 47-56, *Syntretus conterminus* (Nees), ♀, France, Sospel. 47, pterostigma and marginal cell of fore wing; 48, propodeum and first metasomal tergite, dorsal aspect; 49, basal half of hind wing; 50, inner hind claw; 51, propodeum and first tergite, lateral aspect; 52, base of antenna; 53, head, lateral aspect; 54, head, dorso-lateral aspect; 55, apex of antenna; 56, hind basitarsus. 47-49, 51: 1.0 × scale-line; 50: 2.6 ×; 52, 55: 2.3 ×; 53, 54: 1.1 ×; 56: 1.3 ×.

narrowed, slender (fig. 48), first tergite slightly widened basally (fig. 48), subcylindrical basally, sternite not separated by sutures, notum subposteriorly distinctly convex (fig. 51); laterally smooth, without dorso-lateral carina; laterope absent; ovipositor sheath 0.18 times fore wing, 0.45 times hind tibia and 0.3 times as long as metasoma; apical quarter of ovipositor sheath somewhat widened.

Colour.— Yellowish-brown; antenna (except for four yellowish basal segments), stemmaticum, scutellum laterally, metanotum, propodeum, first metasomal tergite, second and third tergites partly and ovipositor sheath dark brown or blackish; face, clypeus, palpi, temple ventrally, pronotum, mesosoma ventrally, coxae, trochanters and tegulae pale yellowish; upper valve of ovipositor not visible; most veins of fore wing and pterostigma rather pale brown; pterostigma hardly darkened laterally; wing membrane subhyaline.

Distribution.— Austria, England, France, Germany, Ireland, Netherlands, Scotland, and Spain. Reported by Tobias (1986) as *S. vernalis* from western and southwestern Russia, Caucasus and Kazakhstan. Rarely collected and mainly in May-June.

Variation.— Antennal segments of ♀ 24 (1), 26 (1) or 27 (5), of ♂ 24 (1), or 25 (1); first tergite of ♂ more or less sculptured laterally.

Notes.— According to the original description the length of the ovipositor should be about half as long as the metasoma or longer (= about 0.4 times fore wing), but this seems to relate to the exerted condition; the third and following metasomal tergites of ♀ are blackish according to the original description but this is variable; the fourth antennal segment is 0.7-0.8 times as long as third segment (fig. 52) and dark brown (or less frequently yellowish); the scutellum is often dark brown, at least laterally; the mesoscutum is darkened according to the original description, but it is often largely or completely yellowish-brown. The male associated with the female by Nees (1834) had 21 antennal segments and most likely belonged to another species (e.g., *S. idalius* (Haliday)).

Syntretus (*S.*) *daghestanicus* Tobias, 1976
(figs 57-65)

Syntretus daghestanicus Tobias, 1976: 230-231.

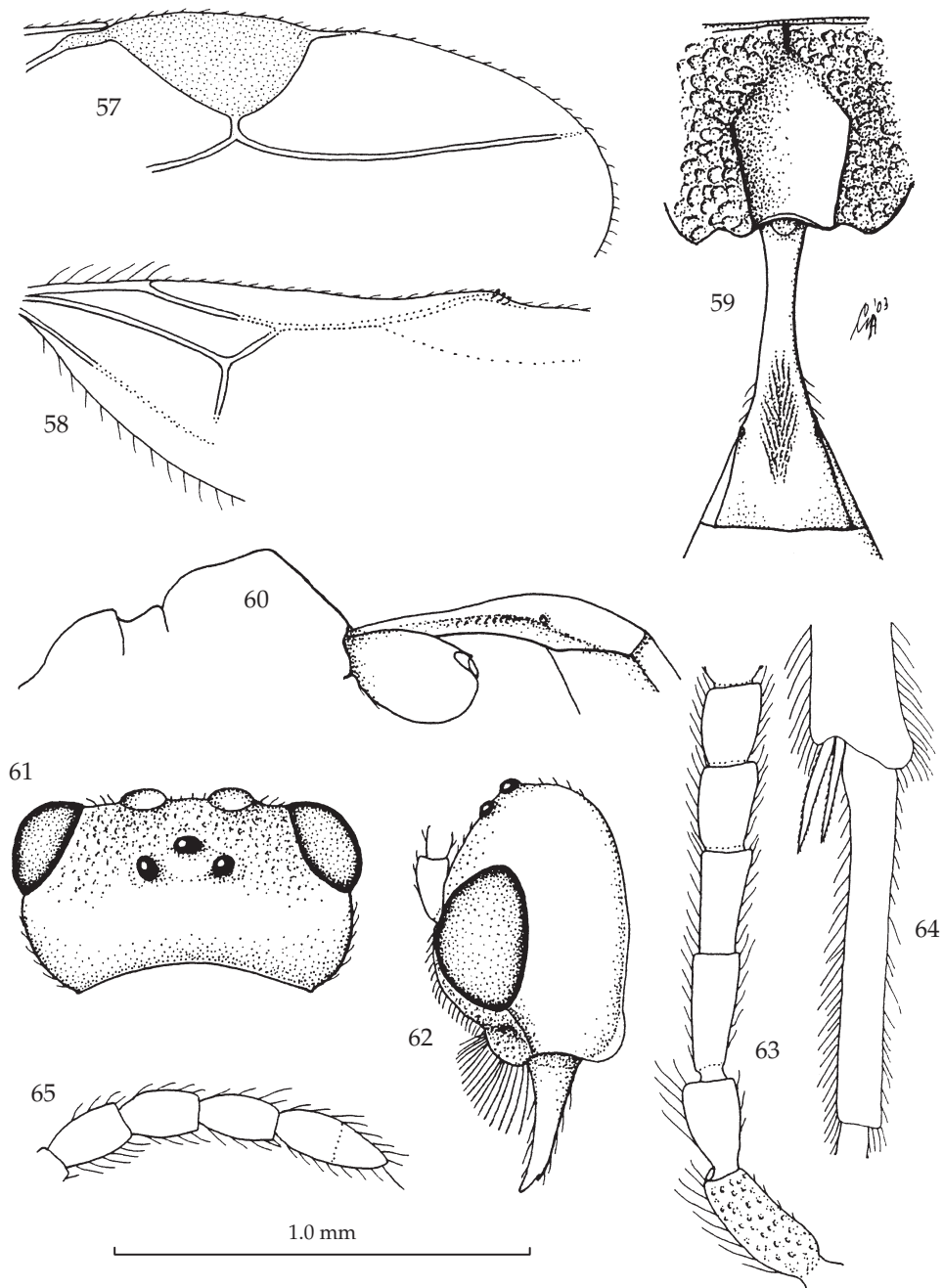
Syntretus microphthalmus Tobias, 1986: 245 (translation: 428); Belokobylskij, 2000: 377 (as synonym of *S. daghestanicus* Tobias, 1976).

Type material.— Holotype of *S. daghestanicus*, ♀ (ZISP), "**Daghest[an]**, Sergokala, les [= wood], 31.v.1972, Kasparjan", "*Syntretus daghestanicus* Tobias sp. nov. Holotypus"; holotype of *S. microphthalmus*, ♂ (ZISP), "MCCP [= **Moldavia**], Faleshtag, 3.vi.[19]60, V. Talitskij". "Holotypus *Syntretus microphthalmus* Tobias", "*Syntretus daghestanicus* Tobias, det. Belokobylskij, 1999".

Additional material examined from: **Italy** (Pietrabbianca di Bussoleno, 900 m, TO, Piemonte); and **Turkey** (Sivas) (RMNH, USNM, ZISP, ZSM).

Holotype of *S. daghestanicus*, ♀, length of fore wing 2.7 mm, length of body 3.4 mm.

Head.— Antenna with 19 segments, fourth and following antennal segments robust (figs 63, 65), scapus longer than pedicellus (fig. 63), third antennal segment distinctly longer than pedicellus and 1.3 times as long as fourth segment, third, fourth, sixth and penultimate segments 2.6, 2.0, 1.4 and 1.7 times as long as wide, respectively



Figs 57-65, *Syntretus daghestanicus* Tobias, ♀, holotype. 57, pterostigma and marginal cell of fore wing; 58, basal half of hind wing; 59, propodeum and first metasomal tergite, dorsal aspect; 60, propodeum and first tergite, lateral aspect; 61, head, dorsal aspect; 62, head, lateral aspect; 63, base of antenna; 64, hind basitarsus; 65, apex of antenna. 57-62: 1.0 × scale-line; 63, 65: 2.0 ×; 64: 1.8 ×.

(figs 63, 65); length of maxillary palp 0.6 times height of head; face densely and coarsely punctate, wide and with dense and rather short setosity (fig. 62); clypeus densely punctate, distinctly convex, reaching lower level of eyes (fig. 62), setae very long; frons densely punctate anteriorly (sparsely punctate posteriorly; fig. 61), setose and without median groove or carina, convex in front of anterior ocellus; eye elliptical, not protruding anteriorly (fig. 62); eye in dorsal view as long as temple (fig. 61), temples parallel-sided behind eyes; length of malar space 1.2 times as long as basal width of mandible; malar space coarsely punctate; mandible very slender (fig. 62); occipital carina coarse, reaching hypostomal carina, distinctly curved ventrally.

Mesosoma.—Antescutal depression shallow and medium-sized; mesoscutum punctate, but laterally and posteriorly smooth; notauli absent; scutellum rather convex (fig. 60), smooth, medio-posteriorly not impressed; precoxal sulcus shallowly impressed, punctate, with some crenulae anteriorly, its surroundings mainly smooth; metapleuron rugose-punctate, but medially weakly so; propodeum medio-anteriorly short, and with minute median carina, coarsely rugose-reticulate but medio-posteriorly very strongly concave, and largely smooth, without areola and costulae (fig. 59).

Wings.—Fore wing: basal half of pterostigma very robust; vein 1-R1 largely absent; vein SR1 slightly curved, ending rather close to apex of fore wing (fig. 57); marginal cell wide (fig. 57); basal and subbasal cells of fore wing less densely setose than apical cells. Hind wing: vein 1r-m medium-sized and vein 2-SC+R not sclerotised (fig. 58).

Legs.—Length of femur, tibia and basitarsus of hind leg 3.7, 8.6 and 8.0 times as long as their maximum width, respectively; hind basitarsus comparatively slender (fig. 64); fore femur rather inflated, 4.8 times longer than wide; hind femur distinctly punctate; hind coxa rugose.

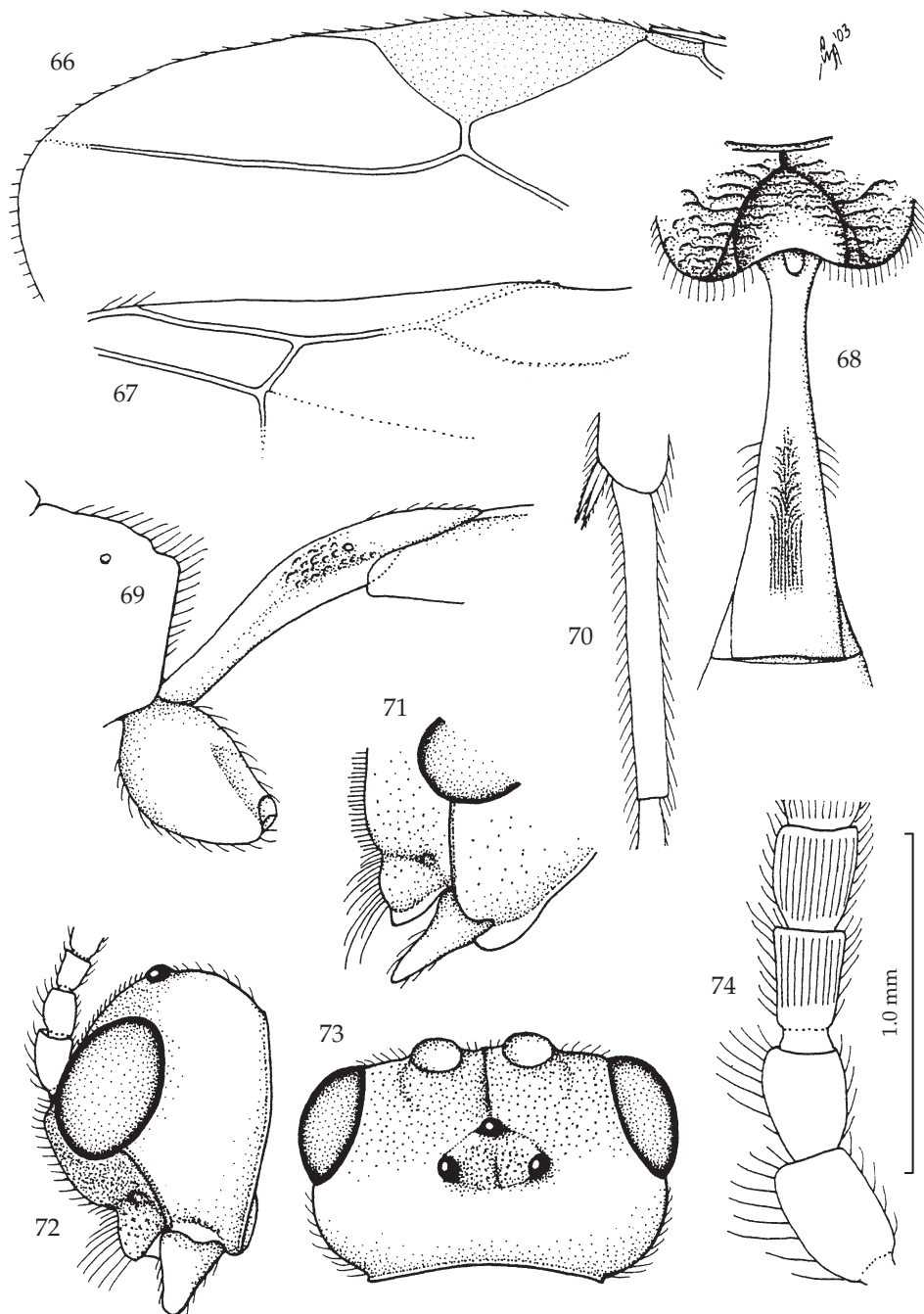
Metasoma.—First tergite long and slender basally, strongly widened posteriorly, in lateral view nearly straight (fig. 60), smooth, but rugose medially, no median carina in front of spiracles and without small depressions posteriorly, in front of spiracles trapezoid-shaped, not narrowed (fig. 60), first tergite not widened basally (fig. 59), trapezoid-shaped basally, and sternite separated by sutures, notum posteriorly flattened (fig. 60); laterally finely crenulate in front of spiracle, without dorso-lateral carina; laterope absent (fig. 60); length of ovipositor sheath 0.24 times fore wing, 0.6 times as long as hind tibia and 0.4 times as long as metasoma.

Colour.—Yellowish-brown; antenna slightly darkened (in ♂ only apical 0.6), stemmaticum, scutellum laterally, metanotum, propodeum, first tergite and ovipositor sheath dark brown or blackish; veins of fore wing and pterostigma yellowish-brown, but margins of pterostigma, parastigma and vein C+SC+R brown; wing membrane subhyaline.

Distribution.—Daghestan, Italy, Moldavia, and (Asian) Turkey (RMNH, USNM, ZISP, ZSM). Mainly collected in May-June.

Variation.—Number of antennal segments of ♀ 19 (3) or 20 (1) and of ♂ 19(1) or 20 (1).

Notes.—*Syntretus daghestanicus* has the clypeus distinctly wider than face (in *S. klugii* about as wide as face), the mandibles very slender (normal in *S. klugii*) and the body comparatively dark. The holotype of *S. microphthalmus* has the base of the first metasomal tergite more robust than the holotype of *S. daghestanicus* and it has the api-



Figs 66-74, *Syntretus elegans* (Ruthe), ♀, holotype. 66, pterostigma and marginal cell of fore wing; 67, basal half of hind wing; 68, propodeum and first metasomal tergite, dorsal aspect; 69, propodeum and first tergite, lateral aspect; 70, hind basitarsus; 71, detail of malar space; 72, head, lateral aspect; 73, head, dorsal aspect; 74, base of antenna. 66, 67: 1.0 × scale-line; 68, 69, 71-73: 2.0 ×; 70: 1.5 ×; 74: 2.6 ×.

cal 0.6 of the antenna darkened. The sculpture of the mesoscutum varies from nearly completely smooth to distinctly punctate; the setosity is moderately dense to sparse. The face may be shiny and weakly punctate. The male from Turkey has the mesoscutum partly infusate. The Nearctic *S. vigilax* (Provancher, 1880) is very similar but has the mesoscutum densely setose and the first metasomal tergite yellowish-brown.

Syntretus (*S.*) *dzieduszykii* Niezabitowski, 1910

Syntretus dzieduszykii Niezabitowski, 1910: 94; Shenefelt, 1969: 131; Tobias, 1986: 246 (translation: 431).

Notes.— The holotype from Ukraine was not available for examination. The aberrant sculpture of the mesoscutum should allow identification, if this species indeed belongs to the genus *Syntretus*.

Syntretus (*S.*) *elegans* (Ruthe, 1856)
(figs 66-74)

Microctonus elegans Ruthe, 1856: 290 [examined].

Syntretus elegans; Shenefelt, 1969: 131; Tobias, 1986: 245 (translation: 428); Belokobyl'skij, 2000: 377.

Type material.— Holotype, ♀ (BMNH), "Type", "B.M. Type 3.c.726", "B.M. Type Hym. *Microctonus elegans* Ruthe, 1856", "*M. elegans* m.", "11/6 05.", "*M. elegans* Rut.", "Ruthe Coll. 59.101.", 59.101, Germany".

Additional material examined from: **Austria** (Piesting, det. Papp as *S. elegans*; Oberweiden, Nied. Österreich; Wien, Stammersdorf, on *Lepidium draba*; Jan Taur.[?], Nied. Österreich, det. Reinhard as *S. elegans*); **Bulgaria** (Charmanbi, det. Zaykov as *S. klugii*; Burgas; Rhodopi Mts: Petelovo; Satoftsha; Belite brezi; Belastica; D. Lukovo; Chrabrino (det. Zaykov as *S. elegans*; D. Drjanovo; Er. kjuipria; St. Zagora; Sch. polana); **France** (Albi, Tain (obtained by rearing *Carabus*); Argentat, Corrèze; Samakan); **Germany** (Frankenhausen, Kyffhäuser, Südhänge; Eberswalde, Ostend, det. Taeger as *S. elegans*); **Hungary** (Kismaros); **Ireland** (Tullamore, Co. Offaly [formerly King's County], det. Stelfox as *S. ?elegans*); **Italy** (Sarntal, Bolzano, 1250 m); **Moldavia** (Kishinev, garden); **Netherlands** (Ede, Gld., garden); **Russia** (Ardon, Vladik., okr Tersk. obl.); **Sweden** (Lund); **Turkey** (Ankara; Sivas, university campus, used for DNA-extraction); **Ukraine** (Krim, Karadag, det. Tobias as *S. elegans*); **Yugoslavia** (Durmitor, Kanj Susice) (MNHN, NMW, RMNH, USNM, ZIL, ZISP, ZSM).

Holotype, ♀, length of fore wing 3.3 mm, length of body 4.5 mm.

Head.— Antenna with 30 segments and as long as body, fourth and following antennal segments robust (fig. 74), scapus distinctly larger than pedicellus (fig. 74), third antennal segment distinctly longer than pedicellus and 1.1 times as long as fourth segment, fourth and following segments with many thyloids, third, fourth, sixth and penultimate segments 1.6, 1.2, 1.0, and 1.5 times as long as wide, respectively (fig. 74); length of maxillary palp 0.8 times height of head; face coarsely and densely rugose (but near tentorial pits flattened and nearly smooth), strongly transverse and with rather long setosity (fig. 72); clypeus punctate, distinctly convex medially, situated below lower level of eyes (fig. 72), setae long; frons densely punctate and setose, with median groove, anteriorly with weak carina, rather convex in front of anterior ocellus; stemmaticum punctate, but vertex posteriorly smooth; eye elliptical, directed anteriorad (fig. 73); eye in dorsal view 1.1 times as long as temple; temples parallel-sided behind

eyes (fig. 73); length of malar space 1.8 times basal width of mandible; occipital carina distinctly reaching hypostomal carina; occipital flange rather large (fig. 71).

Mesosoma.—Antescutal depression rather shallow and small; mesoscutum punctate, but notaulic area punctate-rugose and laterally widely smooth), robust, densely setose except for smooth parts; notauli not impressed; scutellum somewhat convex, smooth, medio-posteriorly indistinctly crenulate; mesopleuron mainly smooth except for some fine striae and punctures at precoxal area, anteriorly crenulate and sparsely punctate dorsally and postero-ventrally; metapleuron densely punctate, with large metapleural flange; propodeum coarsely rugose, anteriorly short and with short and coarse median carina connected to large concave areola, posteriorly steep and with irregular costulae (figs 68, 69).

Wings.—Fore wing: basal half of pterostigma robust, vein r emitted distinctly after middle (fig. 66); vein 1-R1 only basally narrowly developed, anterior length of marginal cell 1.3 times as long as pterostigma; vein SR1 nearly straight, ending rather close to apex of fore wing and to apex of pterostigma, apically reduced; marginal cell wide (fig. 66); basal and subbasal cells of fore wing somewhat less densely setose than apical cells. Hind wing: vein 1r-m medium-sized, about half as long as vein 2-SC+R, but veins 2-SC+R apically, SC+R1 and R1 reduced, unsclerotised (fig. 67); vein cu-a sclerotised basally.

Legs.—Length of femur, tibia and basitarsus of hind leg 4.2, 12.4 and 8.5 times as long as their maximum width, respectively; hind tibia curved subapically; hind basitarsus slender (fig. 70); fore femur hardly inflated, 4.7 times longer than wide; inner tooth of tarsal claws somewhat wider than apical tooth.

Metasoma.—First tergite long, mainly smooth but rugose medially, no median carina in front of spiracles and without small depressions posteriorly, in front of spiracles gradually narrowed (fig. 68), tergite slightly widened basally, basal half cylindrical, and sternite not separated by sutures, laterope absent, tergite in lateral view somewhat curved, without dorso-lateral carina, and near spiracle distinctly rugose (fig. 69), notum posteriorly gradually widened and rather flat (fig. 68); ovipositor sheath 0.30 times fore wing, 0.7 times hind tibia and 0.45 times as long as metasoma.

Colour.—Yellowish-brown; antenna (except for three basal segments) more or less dark brown; stemmaticum, patch on occiput, pronotum antero-dorsally, scutellum laterally, metanotum, propodeum, first tergite and ovipositor sheath blackish; veins of fore wing mainly brown; pterostigma yellowish-brown; wing membrane subhyaline; both valves of ovipositor brown.

Distribution.—Austria, Bulgaria, France, Germany, Hungary, Ireland, Italy, Moldavia, Netherlands, Russia, (Asian) Turkey, Ukraine, and Yugoslavia. Reported from Russia (Kalingrad), France (Reinhard, 1862), Hungary (Marshall, 1891), Far East Russia, Kazakhstan, Georgia, and Lithuania (Belokobylskij, 2000). Mainly collected in May-June.

Variation.—Antennal segments of ♀ 27 (1), 28 (3), 29 (6), 30 (7), 31 (4) or 32 (4), of ♂ 28 (3), 29 (2) or 30 (3); frons densely punctate (♀) to largely smooth (♂; except for lateral punctation).

Notes.—One of the few species of *Syntretus* which is easily recognisable because of the reduced venation in combination with the high number of antennal segments and comparatively slender first tergite.

We have examined two females of the East Palaearctic *S. planifacies* Belokobylskij, 1993, from Japan (Maetô collection: "Mt Inunakiyama, Fukuoka Pref., 29.iv.1977, K. Maetô" and "Mt. Tachibana, Fukuoka City, 5.v.1979, K. Maetô", being the first record for Japan. Both possess 29 antennal segments and are similar to *S. elegans*. According to the original description of *S. planifacies* the antenna consists of 31-32 segments. They differ from *S. elegans* by having the face very transverse and with short setosity; the head in dorsal view much more transverse, the eyes not directed forward and the fore femur strongly inflated.

Syntretus (*S.*) *flevo* spec. nov.
(figs 75-82)

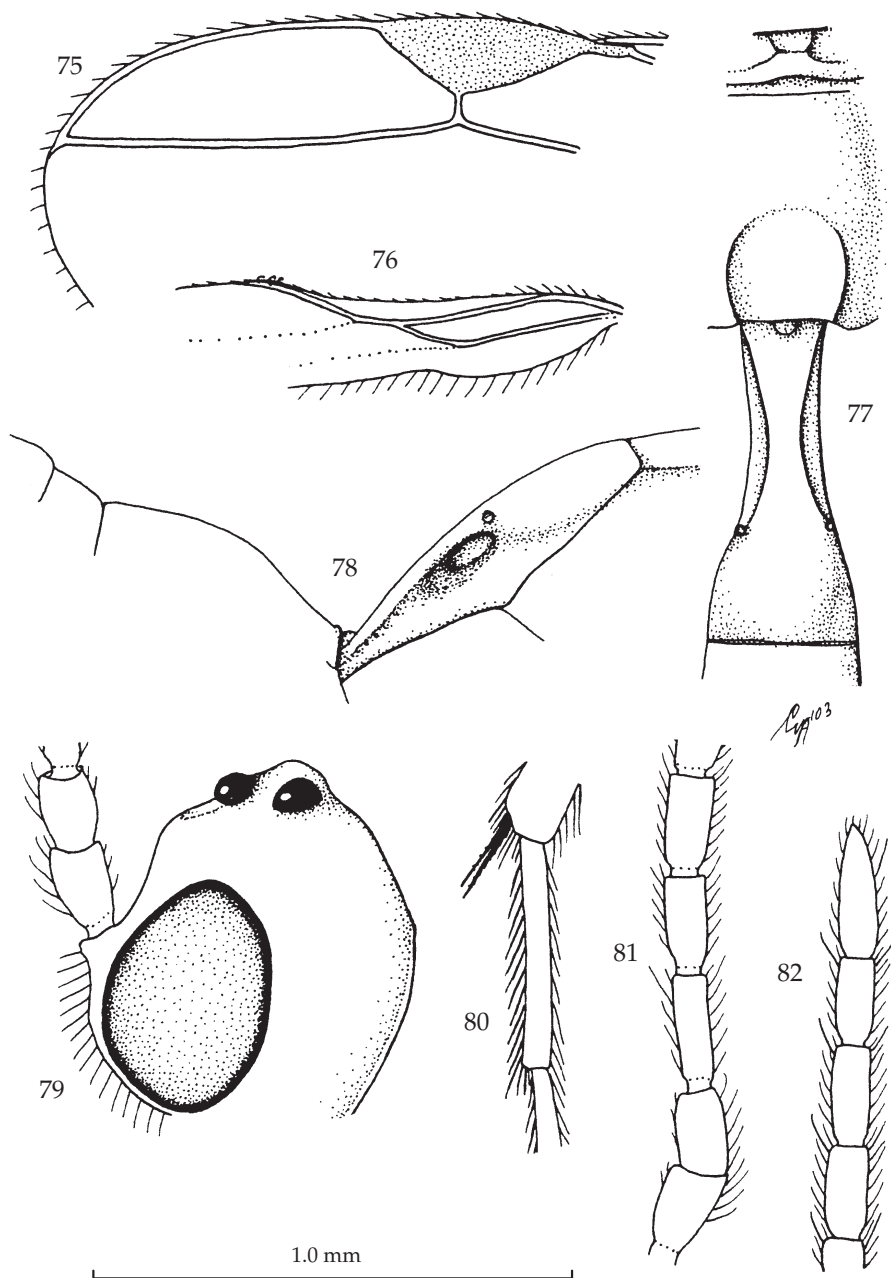
Type material.— Holotype, ♀ (RMNH), "Netherlands: Flevoland, Lelystad, Oostvaardersplassen], FU 6314, 29.vii-4.viii.1990, Mal tr., *Sambucus*/*Salix* wood, D. v.d.Hout & J. de Rond, RMNH". Paratypes (5 ♀♀ + 15 ♂♂): 2 ♂♂ (RMNH), "Nederland, Oostvoorne (Z.-H.), Biol. Station, 1-7.vi.1974, C. van Achterberg"; 3 ♂♂ (NMW, RMNH), "Austria, Stmk. (51), Eggerkogel, N-Hang, 5 km SSO Admont", "1100 m, starker Wind, überwiegend sonnig, 19.vii.1970, [M.] Fischer"; 1 ♂ (RMNH), "Bulgaria, ex coll. Zaykov, RMNH Leiden 1991", "Borovez, 23.vii.1982, [A.] Zaykov"; 1 ♀ (RMNH), "Bulgaria, ex coll. Zaykov, RMNH Leiden 1994", "Rodopi, Pamporovo, 19.viii.[19]94, [A.] Zaykov"; 1 ♀ + 7 ♂♂ (NMS, RMNH), "[England], Abbots Moss, Cheshire, SJ 5868, Malaise Trap 2, *Quercus*/*Betula*/*Pinus*, 27.vi-23.vii.[19]86, R.R. Askew, NMSZ 1988.002"; 1 ♀ (USNM), "St. A" (on reverse side of Walker-card), "142", no locality, but probably from England and a nineteenth century specimen; 1 ♂ (USNM), "[Ireland], Donard Lo[dge], Co. Do[wn], (1) 14.x.[19]58, A.W. S[telfox]", "A.W. Stelfox Collection, 1966"; 1 ♀ (USNM), "[Ireland], Tollymore Park, Co. Down, (4) 27.viii.[19]61, A.W. S[telfox]", "A.W. Stelfox Collection, 1966" (labelled as type with a MS-name by Stelfox, 27.i.1962); 1 ♀ (ZSM), "I [= Italy], Campi, Riva s. Garda, 1200 m, D/ 7.vii.[19]66 Hbth."; 1 ♂ (ZSM), "Italy, Gampenjoch, Südtirol, 1350 m, A, 23.vii.[19]66, Hbth.".

Holotype, ♀, length of fore wing 1.9 mm, length of body 1.8 mm.

Head.— Antenna with 17 segments, fourth and following antennal segments slender and moderately bristly setose (figs 81, 82), scapus hardly longer than pedicellus (fig. 81), third antennal segment distinctly longer than pedicellus and 1.1 times as long as fourth segment, third, fourth, sixth and penultimate segments 2.7, 2.5, 2.2, and 2.0 times as long as wide, respectively (figs 81, 82); length of maxillary palp about equal to height of head; face smooth, rather transverse and with medium-sized setosity (fig. 79); clypeus smooth, distinctly convex, reaching lower level of eyes, setae rather long; frons smooth, glabrous except lateral setosity and without median groove or carina, rather flat in front of anterior ocellus; eye elliptical, not protruding anteriorly (fig. 79); eye in dorsal view 1.4 times as long as temple; temples parallel-sided behind eyes; length of malar space 0.9 times basal width of mandible.

Mesosoma.— Antescutal depression narrow; mesoscutum smooth (including notaulic area anteriorly), glabrous; notauli absent; scutellum convex, smooth, medio-posteriorly narrowly crenulate; metapleuron smooth; propodeum anteriorly rather long, and without median carina or posterior rugae, posteriorly gradually declivous and without areola or costulae (figs 77, 78).

Wings.— Fore wing: basal half of pterostigma rather robust, vein r emitted distinctly after middle (fig. 75); vein 1-R1 1.6 times as long as pterostigma, complete; vein SR1 straight, ending near apex of fore wing and marginal cell moderately wide (fig.



Figs 75-82, *Syntretus flevo* spec. nov., ♀, holotype. 75, pterostigma and marginal cell of fore wing; 76, basal half of hind wing; 77, propodeum and first metasomal tergite, dorsal aspect; 78, propodeum and first tergite, lateral aspect; 79, head, dorso-lateral aspect; 80, hind basitarsus; 81, base of antenna; 82, apex of antenna. 75, 76: 1.0 × scale-line; 77-82: 2.0 ×.

75); basal and subbasal cells of fore wing less densely setose than other cells. Hind wing: vein 1r-m medium-sized, slightly shorter than vein 2-SC+R (fig. 76).

Legs.— Length of femur, tibia and basitarsus of hind leg 4.8, 9.2 and 5.7 times as long as their maximum width, respectively; hind basitarsus comparatively slender (fig. 80); fore femur rather compressed, but outer side convex, 4.7 times longer than wide.

Metasoma.— First tergite rather short (fig. 77), smooth, no median carina in front of spiracles and without small depressions posteriorly, in front of spiracles strongly narrowed (fig. 77), basal half of first tergite strongly widened basally, flattened basally (trapezoid-shaped), and sternite separated by sutures, notum posteriorly flattened (fig. 78); laterally narrowly crenulate, with distinct dorso-lateral carina; laterope very deep, large and situated near middle of tergite and removed from spiracle (fig. 78); ovipositor sheath 0.11 times fore wing, 0.4 times hind tibia and 0.3 times as long as metasoma.

Colour.— Yellowish-brown; antenna (except for four basal segments), stemmaticum, frons dorsally, vertex dorsally, mesosoma dorsally (except pronotum), apical half of metasoma dorsally, tarsal arolia and ovipositor sheath dark brown or blackish; veins of fore wing and pterostigma completely brown; wing membrane subhyaline; both valves of ovipositor rather dark brown.

Distribution.— Austria, Bulgaria, England, Ireland, Italy, and Netherlands. Mainly collected in June-July.

Variation.— Length of fore wing 1.5-2.1 mm, length of body 1.4-1.9 mm; antennal segments of ♀ 17 (3), or 18 (4), and of ♂ 14 (1), 15 (3), 16 (7) or 17 (3); length of vein 1-R1 of fore wing 1.3-1.5 times as long as pterostigma; length of hind basitarsus 5.3-5.7 times its width; propodeum smooth or nearly so, also of males; males have first tergite sometimes rugulose; mesosoma may be largely yellowish or only notaularic area yellowish; males have head (except clypeus and including antenna) and mesosoma (except more or less pronotum) dark brown; pterostigma may be only laterally darkened; first and second tergites usually yellowish but sometimes dark brown, but paler than blackish apical half of metasoma; fourth antennal segment may be dark brown.

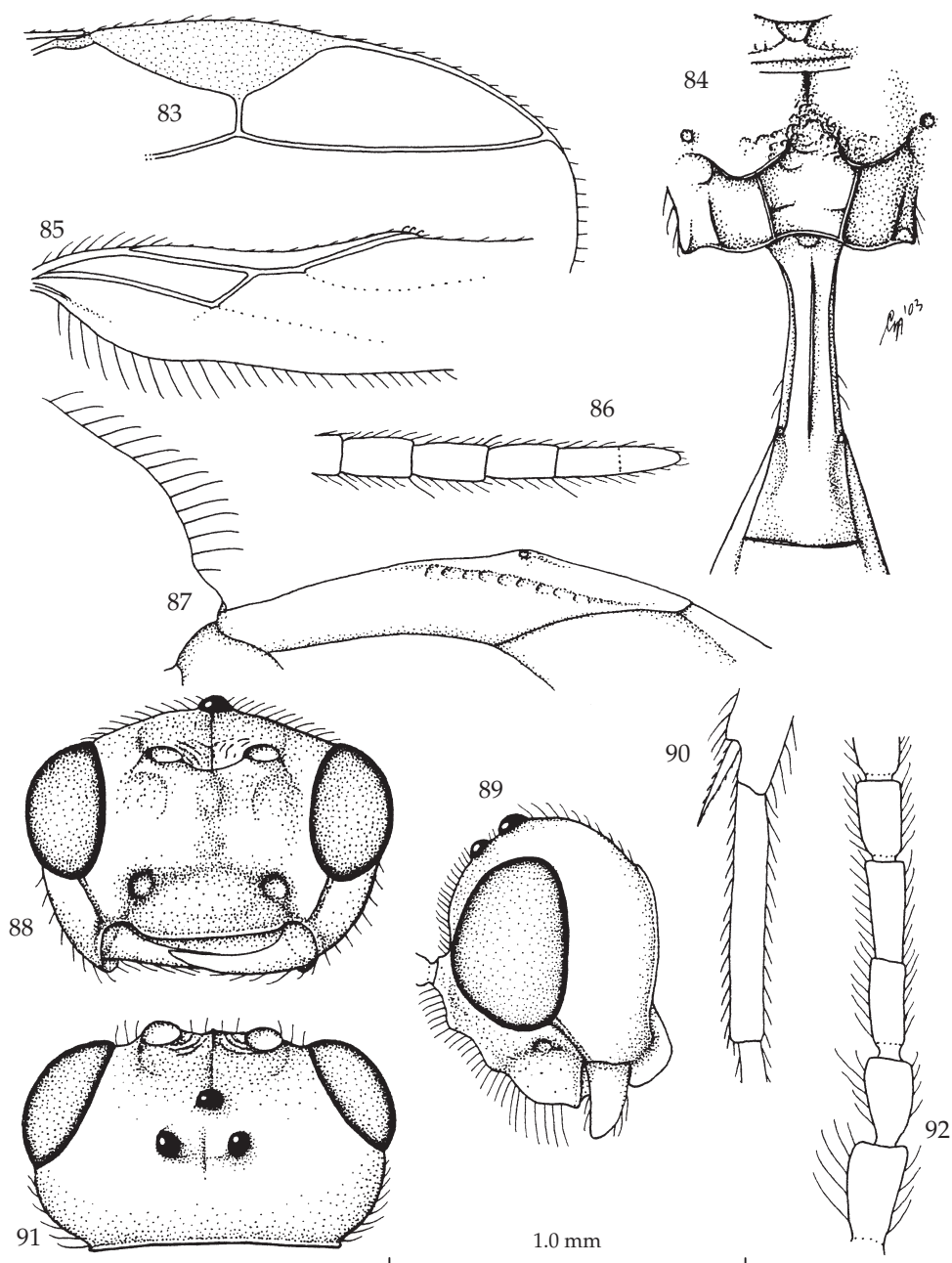
Note.— Similar to *S. zuijleni* spec. nov., but *S. fleva* differs by the lower number of antennal segments, the less slender antennal segments, the less robust hind basitarsus, and the larger and deeper laterope of the first tergite.

Syntretus (*S.*) *fuscicoxis* spec. nov.
(figs 83-92)

Type material.— Holotype, ♀ (USNM), "[Ireland], Tollymore Park, Co. Do[wn], (1) 10.vi.[19]61, A.W. Stelfox]", "A.W. Stelfox Collection, 1966". Paratypes (6 ♀ + 1 ♂): 2 ♀ (USNM, RMNH), topotypic, but 4.vi.1961; 1 ♀ (Århus museum), "Dania, E-Jylland, Klattrup, S of Vejle, Tiufkjaer skov, 20.vii.1984, T. Munk"; 1 ♀ (CNC), "[Germany], Lohrberg-Fuss im Siebengebirge, 19.vi.1961, Erich Schmidt"; 1 ♂ (ZSM), [Germany], Wiesen/ Spessart, 8.v.1961, [E.] Haeselbarth"; 1 ♀ (ZSM), id., but 31.v.1961; 1 ♀ (NMS), "[England], Chippenham Fen, Cambs., TL 650693, Malaise trap, carr at reedbed edge A, 9-20.vii.[19]84, J. Field, NMSNH 1986.021".

Holotype, ♀, length of fore wing 2.6 mm, length of body 2.8 mm.

Head.— Antenna with 18 segments, fourth and following antennal segments rather robust (figs 86, 92), scapus distinctly longer than pedicellus (fig. 92), third



Figs 83-92, *Syntretus fuscicoxis* spec. nov., ♀, holotype. 83, pterostigma and marginal cell of fore wing; 84, propodeum and first metasomal tergite, dorsal aspect; 85, basal half of hind wing; 86, apex of antenna; 87, propodeum and first tergite, lateral aspect; 88, head, frontal aspect; 89, head, lateral aspect; 90, hind basitarsus; 91, head, dorsal aspect; 92, base of antenna. 83, 85: 1.0 × scale-line; 84, 86, 87, 90, 92: 2.3 ×; 88, 89, 91: 1.5 ×.

antennal segment distinctly longer than pedicellus and as long as fourth segment, third, fourth, sixth and penultimate segments 3.0, 2.7, 1.5 and 1.5 times as long as wide, respectively (figs 86, 92); length of maxillary palp 0.9 times height of head; face with distinct medio-dorsal tubercle, face distinctly transverse (fig. 88), laterally shallowly depressed, largely smooth except for some microsculpture dorsally and with rather long setosity (fig. 89); clypeus with some punctures, distinctly convex, reaching lower level of eyes (fig. 88), its setae long; frons, rugose near antennal sockets, completely densely setose and punctulate, and with distinct median groove, distinctly convex in front of anterior ocellus; ocelli rather small; eye rather protruding anteriorly (fig. 89); eye in dorsal view 1.8 times as long as temple, head distinctly transverse in dorsal view and without median groove behind stemmaticum; temples parallel-sided behind eyes; length of malar space 0.9 times basal width of mandible; vertex in lateral view moderately protruding, 0.3 times height of eye above upper level of eyes (fig. 89); occipital flange enlarged (but smaller in most paratypes).

Mesosoma.—Antescutal depression narrow; pronotum with some coarse crenulae anteriorly; mesoscutum robust, smooth (including notaulic area anteriorly), glabrous; notauli absent, except for a shallow impression anteriorly; scutellum rather flat, smooth, without medio-posterior impression; metapleuron smooth but rugose ventrally; propodeum anteriorly rather short and with coarse medium-sized median carina, posteriorly steep and with coarse areola, mainly smooth and with distinct costulae (figs 84, 87).

Wings.—Fore wing: basal half of pterostigma rather robust, vein r emitted distinctly after middle (fig. 83); vein 1-R1 as long as pterostigma, complete; vein SR1 nearly straight, ending close to apex of fore wing, and marginal cell moderately wide (fig. 83); basal and subbasal cells of fore wing somewhat less densely setose than other cells. Hind wing: vein 1r-m about as long as vein 2-SC+R (fig. 85).

Legs.—Length of femur, tibia and basitarsus of hind leg 4.4, 10.0 and 7.5 times as long as their maximum width, respectively; hind basitarsus slender (fig. 90); fore femur rather slender and depressed, 4.5 times longer than wide.

Metasoma.—First tergite largely smooth (except for median carina medially), in front of spiracles gradually narrowed, slender (fig. 84), basal half of first tergite slightly widened, trapezoid-shaped and depressed basally, sternite not separated by sutures, notum flattened posteriorly (fig. 87); basal third smooth laterally, middle third finely crenulate and posterior third with some indistinct rugosity, only middle third with dorso-lateral carina; laterope absent; ovipositor sheath 0.13 times fore wing, 0.4 times hind tibia and 0.25 times as long as metasoma; apical 0.4 of ovipositor sheath widened and setose, remainder largely glabrous and slender.

Colour.—Dark brown, including antenna (except for four yellowish basal segments); vertex dorsally (except for stemmaticum), a V-shaped patch on mesoscutum, pronotum and mesopleuron dorso-posteriorly, palpi, tegulae and legs (but middle coxa basally and telotarsi somewhat infusate and hind coxa largely dark brown) yellowish-brown; ovipositor sheath black; upper valve of ovipositor invisible; veins C+SC+R, 1-R1, 2-SR and r of fore wing and pterostigma rather pale brown, with pterostigma darkened laterally and remainder of veins yellowish; wing membrane subhyaline.

Distribution.—Denmark, England, Germany, and Ireland. Females mainly collected in June–July.

Variation.— Length of fore wing 2.0–2.6 mm, length of body 2.2–2.8 mm; antennal segments of ♀ 17 (4), 18 (2), or 19 (1), and of ♂ 18 (1); length of ovipositor sheath 0.13–0.15 times fore wing; pterostigma may be pale yellowish, temple anteriorly and face largely yellowish; frons may be yellowish laterally; rarely the hind coxa only infusate basally; both females from Germany have the antenna basally and the legs largely dark brown; median groove behind stemmaticum absent to moderately developed; mesoscutum completely yellowish (except for dark anterior patch), with a wide V-shaped yellowish patch or completely dark brown (German specimens); rarely second metasomal tergite yellowish-brown; length of vein 1-R1 of fore wing 1.0–1.2 times length of pterostigma.

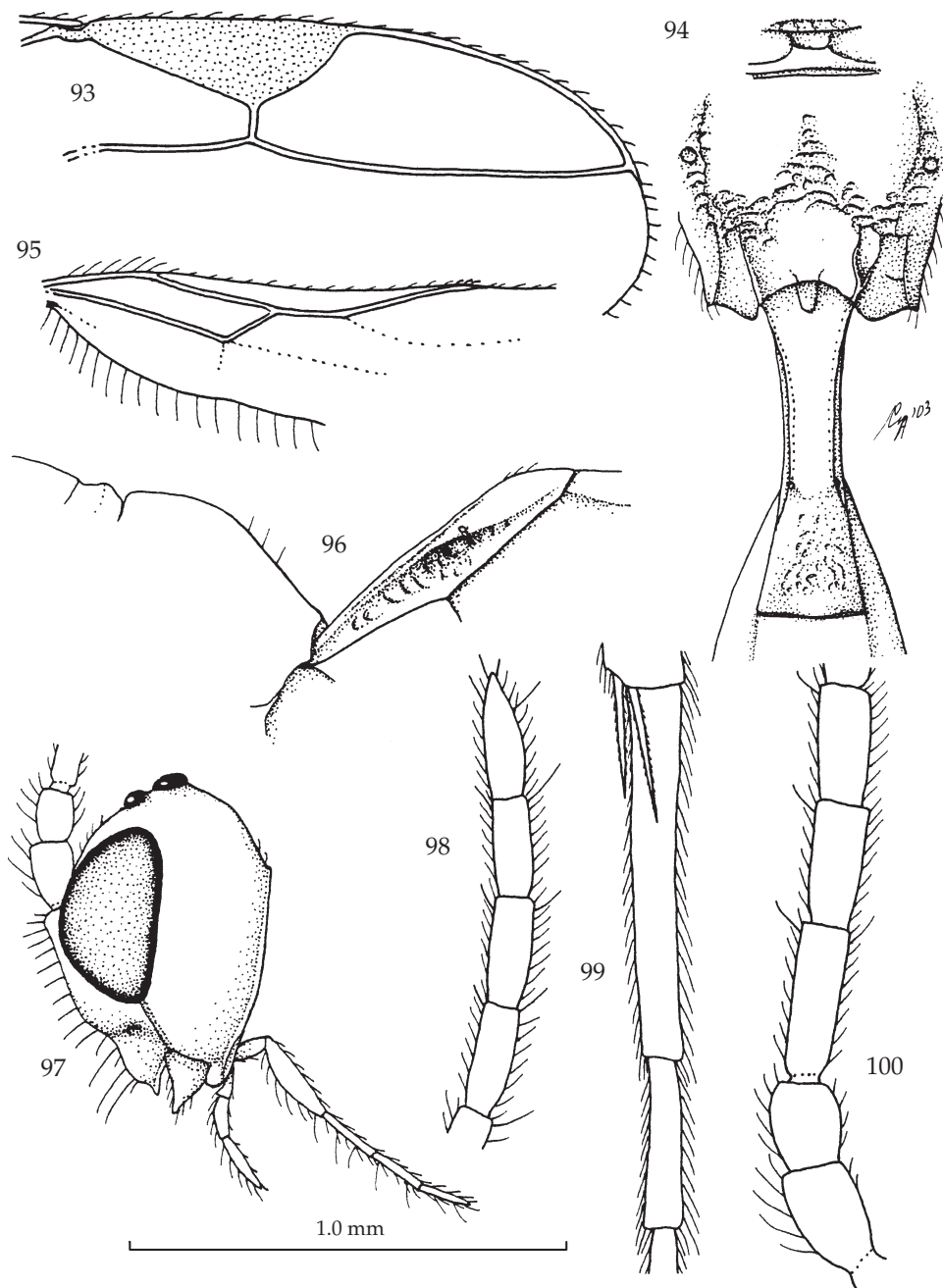
Notes.— Shares with the East Palaearctic *S. hirtus* Belokobylskij, 1996, and *S. setosus* Chen & van Achterberg, 1997, from China the evenly setose frons, but *S. fuscicoxis* has the frons with a distinct median groove posteriorly, the mesoscutum glabrous and smooth, the antenna with less segments, the body much darker, and the pterostigma wider basally.

Syntretus (*S.*) *fuscivalvis* spec. nov.
(figs 93–100)

Type material.— Holotype, ♀ (RMNH), “Nederland, Wijster (Dr.), opposite Biol. Stat., 11–25.viii.1972, C. v. Achterberg”. Paratypes (22 ♀♀ + 4 ♂♂): 1 ♀ (RMNH), “Nederland, Waarder (Z.-H.), Oosteinde 34, 12–13.viii.1971, C. van Achterberg”, “*Alnus-Salix*-forest on peat in cult. area, Townes-trap”; 1 ♀ (RMNH), id., but 1–17.vi.1972; 1 ♀ (RMNH), “Nederland, Oostvoorne (Z.-H.), Biol. Station, 18.vi–14.vii.1973, C. van Achterberg”; 1 ♀ (RMNH), id., but 5.viii–4.ix.1975; 1 ♀ (RMNH), “Neth[erlands], prov. Limburg, 2 km N of Schaesberg, Heihof, 10–21.viii.1991, P. Thomas”; 1 ♀ (RMNH), id., but 18–28.ix.1991; 1 ♀ (RMNH), “Nederland, Tongeren (Gld.), landgoed Welna, 26.viii.1993, B. van Aartsen”; 1 ♀ (RMNH), “Netherlands: Flevoland, Lelystad, A72, 10–16.viii.1993, Mal trap, M. v.d.Hout, RMNH”; 1 ♀ (RMNH), “Bulgaria, ex coll. Zaykov, RMNH Leiden 1991”, “Kostinbrod, 20.vii.1980, [A.] Zaykov”; 1 ♂ (RMNH), “Bulgaria, ex coll. Zaykov, RMNH Leiden 1994”, “Trakia, Voivodinovo, 16.vii.1994, [A.] Zaykov”; 1 ♀ (NMS), “[England], Richmond Park, Surrey, 18.viii.1983 (19.00 hr); mature oak canopy fogged 17 m with Resilin, N.E. Stork, RSMNH 1984.020, tree 2”; 7 ♀♀ (NMS, RMNH), “[England], Abbots Moss, Cheshire, SJ 5868, Malaise Trap 1, *Quercus/Betula/Pinus*, 27.vi–23.vii.1986, R.R. Askew, NMSZ 1988.002”; 1 ♀ (NMS), id., but 12.x–29.xi.1986; 1 ♀ (NMS), “[England], Santon Downham, Norfolk, TL 818883, Malaise trap, heath with birch and pine, 18–25.viii.1983, J. Field, MG NMSNH 1986.021”; 1 ♀ (NMS), id., but 27.viii–27.ix.1984; 1 ♀ (NMS), “[England], Chippenham Fen, Cambs., TL 650693, Malaise trap, carr at reedbed edge B, 9–22.vii.1983, J. Field, NMSNH 1986.021”; 1 ♀ (USNM), “[Ireland], Devil’s Glen, Co. Wi[cklow], (3) 29.ix.1951, A.W. Stelfox”, “A.W. Stelfox Collection, 1966”; 1 ♂ (USNM), “[Ireland], Killurin, Co. W[e]x[ford], 22.vii.1937, G.M. S.”, “A.W. Stelfox Collection, 1966”; 1 ♀ (ZSM) “[Italy], TO, Giaglione, 630 m, 18.vii–16.viii.1987, G. Bassi”; 1 ♂ (NMS), “[Scotland], W. Ross, native pinewood, Mal. trap, NG 8252, I MacGowan, vii.1991, NMSZ 1992.001”; 1 ♂ (CNC), “Sweden, Vmld, Ekshärad, 23.vii.1960, W.R.M. Mason”.

Holotype, ♀, length of fore wing 2.3 mm, length of body 2.5 mm.

Head.— Antenna with 24 segments, fourth and following antennal segments slender and rather sparsely setose (figs 98, 100), scapus slightly longer than pedicellus (fig. 100), third antennal segment distinctly longer than pedicellus and 1.3 times as long as fourth segment, third, fourth, sixth and penultimate segments 3.5, 2.7, 2.0, and 2.3 times as long as wide, respectively (figs 98, 100); length of maxillary palp 1.1 times



Figs 93-100, *Syntretus fuscivalvis* spec. nov., ♀, holotype. 93, pterostigma and marginal cell of fore wing; 94, propodeum and first metasomal tergite, dorsal aspect; 95, basal half of hind wing; 96, propodeum and first tergite, lateral aspect; 97, head, lateral aspect; 98, apex of antenna; 99, hind basitarsus; 100, base of antenna. 93, 95: 1.0 × scale-line; 94, 96, 97: 1.4 ×; 98-100: 2.3 ×.

height of head; face smooth, rather transverse and with medium-sized setosity (fig. 97); clypeus smooth, distinctly convex, reaching about lower level of eyes (fig. 97), setae medium-sized; frons smooth, glabrous except lateral setosity and without median groove or median carina anteriorly, rather convex in front of anterior ocellus; eye elliptical, not or weakly protruding anteriorly (fig. 97); eye in dorsal view 1.1 times as long as temple; temples parallel-sided behind eyes; length of malar space equal to basal width of mandible.

Mesosoma.— Antescutal depression narrow; mesoscutum smooth (including notaulic area anteriorly), glabrous; notauli absent; scutellum weakly convex, smooth; metapleuron smooth; propodeum anteriorly rather long, and without median carina (only with some rugae posteriorly), posteriorly rather steep and with distinct areola and medio-laterally rugose and without costulae (figs 94, 96).

Wings.— Fore wing: basal half of pterostigma rather slender, vein r emitted distinctly after middle (fig. 93); vein 1-R1 1.3 times as long as pterostigma, complete; vein SR1 weakly curved, ending close to apex of fore wing and marginal cell comparatively wide (fig. 93); basal and subbasal cells of fore wing nearly as densely setose as other cells. Hind wing: vein 1r-m medium-sized, about half as long as vein 2-SC+R (fig. 95).

Legs.— Length of femur, tibia and basitarsus of hind leg 4.5, 9.2 and 9.0 times as long as their maximum width, respectively; hind basitarsus slender (fig. 99); fore femur rather slender, 4.4 times longer than wide.

Metasoma.— First tergite mainly smooth, except for some rugae posteriorly, in front of spiracles distinctly narrowed (fig. 94), basal half of first tergite slightly widened, flattened basally (trapezoid-shaped), and its sternite separated by sutures, notum posteriorly distinctly convex (fig. 94), laterally distinctly rugose, with distinct dorso-lateral carina; laterope deep, large and situated just behind middle of tergite and partly below spiracle (fig. 96); ovipositor sheath 0.15 times fore wing, 0.5 times hind tibia and 0.3 times as long as metasoma.

Colour.— Yellowish-brown; antenna (except for three basal segments), stemmaticum, scutellum laterally, metanotum, first metasomal tergite, ovipositor sheath and upper valve of ovipositor largely dark brown; telotarsi, veins and pterostigma brown; palpi and tegulae pale yellowish; wing membrane subhyaline.

Distribution.— Bulgaria, England, Ireland, Italy, Netherlands, and Sweden. Collected in June-September.

Variation.— Length of fore wing 1.8-2.4 mm, length of body 1.9-2.5 mm; antennal segments of ♀ 21 (2), 22 (3), 23 (9) or 24 (6), and of ♂ 17 (1), 18 (1), 19 (2), or 23 (1). Laterope situated near middle or behind middle of tergite; sometimes apical half of metasoma, mainly mesosoma dorsally blackish; median carina of first tergite often obsolescent or absent; males have head and mesosoma largely dark brown or blackish, with apex of hind tibia, base of hind coxa and tarsus dark brown; hind tarsus of ♀ sometimes also dark brown.

Notes.— Runs in the key to the Nearctic species of *Falcosyntretus* by Papp & Shaw (2000) to *S. muesebecki* (Papp & Shaw, 2000) **comb. nov.**; however, *S. muesebecki* has a much more robust and posteriorly flattened first metasomal tergite (fig. 1 in Papp & Shaw, 2000), with the laterope far removed from spiracle, being very similar to the East Palaearctic *S. makarovi* Belokobylskij, 1996 (fig. 233-10 in Belokobylskij, 2000). The latter also has a more slender marginal cell of the fore wing (fig. 233-6 l.c.) and a robust ovipositor sheath (fig. 233-8 l.c.). The main difference between *S. muesebecki*

and *S. makarovi* is according to the descriptions the presence of a sclerotised vein cu-a of the hind wing and the smaller eyes (in dorsal view as long as temple) in *S. muesebecki*. In the key to Chinese species of *Syntretus* (Chen & van Achterberg, 1997) and the key to East Palaearctic species (Belokobyl'skij, 2000) *S. fuscivalvis* runs to *S. glaber* Chen & van Achterberg, 1997, from Oriental China. It is very similar but it has the basal and subbasal cells of fore wing sparsely setose, distinctly less setose than the other cells, the antenna of ♀ with 26 segments, no distinct vein 1-M of hind wing, vein 1r-m of hind wing very short and the marginal cell of the fore wing more slender (fig. 564 in Chen & van Achterberg, 1997). Resembles *S. xanthocephalus* (Marshall) but *S. fuscivalvis* is smaller, has the first tergite distinctly convex posteriorly and the laterope situated behind middle of tergite, third and following antennal segments of ♀ usually more slender and the antenna with less segments, the first tergite sculptured laterally, the propodeum usually with a distinct areola (fig. 94), the hind tarsus yellowish and the pterostigma paler brown.

Syntretus (*S.*) *idalius* (Haliday, 1833)
(figs 101-120)

Perilitus idalius Haliday, 1833: 131, 1835: 38 [examined].

Syntretus idalius; Shenefelt, 1969: 131; van Achterberg, 1998: 47 (type status).

Microctonus vernalis Wesmael, 1835: 56 [examined]. **Syn. nov.**

Syntretus vernalis; Shenefelt, 1969: 132-133; Belokobyl'skij, 2000: 390 (as synonym of *S. conterminus* (Nees)).

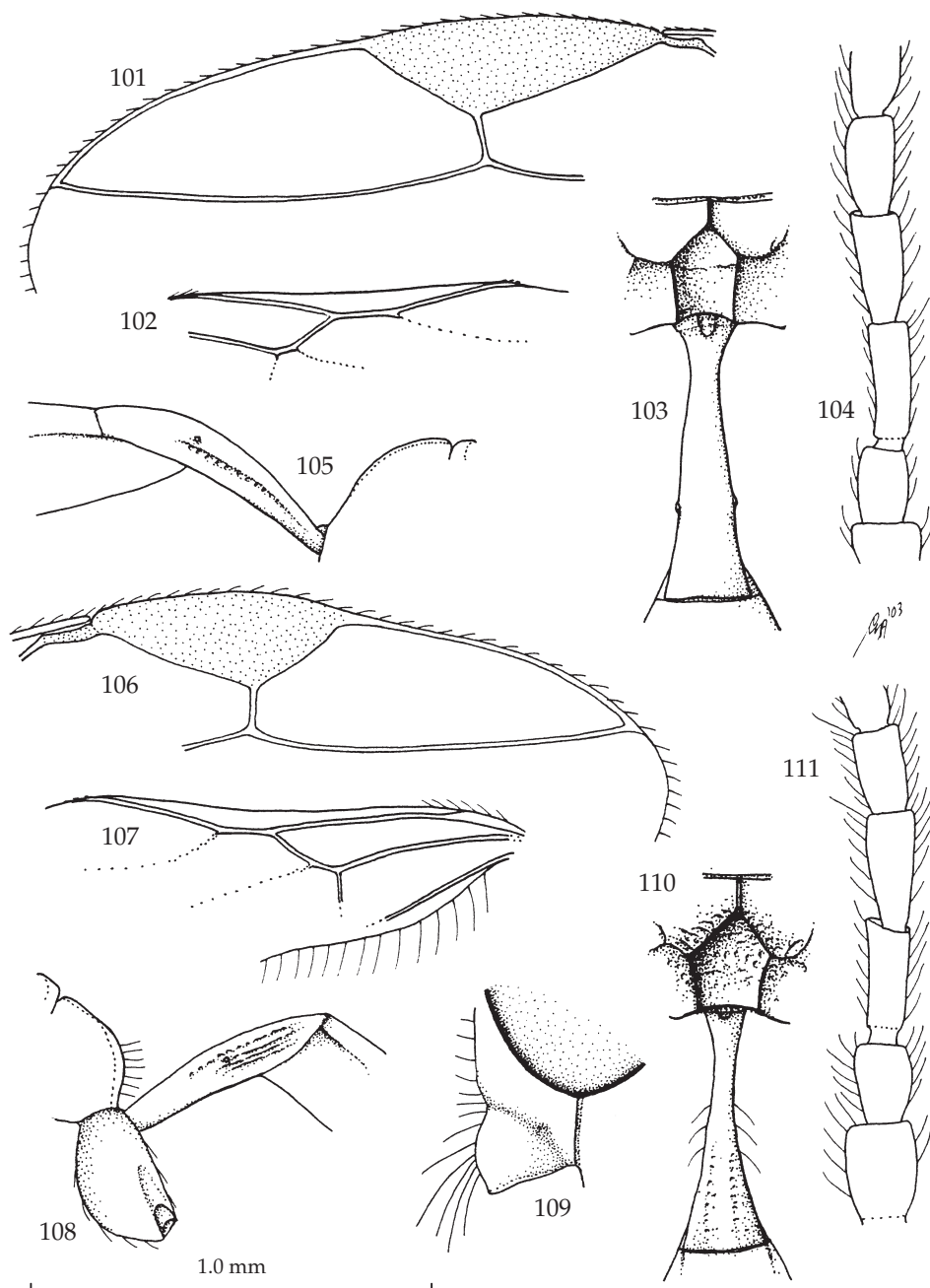
Syntretus vernalis var. *rugosus* Papp, 1961: 448 (unavailable name).

Microctonus cultus Marshall, 1887: 85-86; Shenefelt, 1969: 133 [examined]. **Syn. nov.**

Syntretus testaceus; Belokobyl'skij, 2000: 390.

Type material.— Neotype of *S. idalius* here designated, ♀ (NMI), no locality but most likely from England (see van Achterberg, 1998); it has 23 antennal segments, length of eye in dorsal view 1.4 times temple, length of ovipositor sheath 0.18 times fore wing, fourth antennal segment 0.8 times as long as third segment, length of fore wing 2.9 mm, length of body 3.1 mm, antenna 0.7 times as long as body, colour faded but original colour of metasoma after T1 is yellowish or brownish. Lectotype of *M. vernalis* here designated, ♀ (KBIN), "[Belgium], Coll. Wesmael", "R.I.Sc.N.B.I.G. 3.317", "1774", "*Microctonus vernalis* mihi ♂ ♀, dét. C. Wesmael", "Type", "Lectotypus *M. vernalis* Wsm., det. Haeselbarth, 1975". Length of ovipositor sheath 0.18 times fore wing, and 0.5 times hind tibia, length of fore wing 2.9 mm; no notaulic impression, antenna with 21 segments; in addition two male paralectotypes, of which one may belong to another species (the other one is conspecific). Lectotype of *S. cultus* here designated, ♀ (BMNH), "Type", "B.M. Type Hym. 3.c.57", "B.M. Type Hym. *Microctonus cultus* Marshall 1887", "*cultus* Marsh.", "Marshall coll. 1904-120"; paralectotypes: 1 ♀ + 1 ♂ (BMNH), "Devon: Barnstaple, Marshall Coll., B.M. 1904-120", "in B.M. 1950 under *M. cultus* Msh", (type localities of *S. cultus* are Barnstaple; St. Albans (Devon) and "Shiere" [= Shere], near Guildford in England).

Additional material examined from: **Austria** (Spitzzicken, Bgld.; Frauenberg a.d. Enns, Stmk.; Maria Ansbach; Piesting; Veitl-Graben, Admont, Steierm.; Salzburg, Thalheim near Neumarkt; Brandenburg, Tirol, 1200-1400 m, mixed forest; Obsteig, Tirol, 1000 m; Walchsee, Tirol, 800 m); **Cyprus** (Limasol); **Denmark** (Randboldal, near Vejle, Jylland; Klattrup, id.; Korsør; Sonderburg); **England** (a ♂ (USNM) with "75" on Walker card, "Walker type", "*Microctonus idalius*" (old handwriting but not of Haliday and not a type); Torquay, Devon.; Romsey, Hants., Awbridge; Wychwood Forest, Oxon.; Abbots Moss, Cheshire, *Quercus*/ *Betula*/ *Pinus* wood; Savenake Forest, Wilts.; Beaconsfield, Bucks.; Conworthy, SD; Botusflemming, WC; New Forest); **France** (Mt Ventoux, Combe Brune, from swarm; Maisons-Laffitte, Seine et Oise; Notre Dame forêt; Bastia, Corsica; Col de Vizzavona, 1000 m, Corsica); **Germany** (near Bonn, Kotenforst, on *Populus* or on *Tussilago* leaves; Rheinbach, near Bonn; Rhondorfer Tal, Siebengebirge, from *Rubus* leaf; near Krefeld; Bechtalerwald, Südbaden, 170 m; near Göttingen: Dransfeld, Lippoldshausen,



Figs 101-111, *Syntretus idalius* (Haliday), 101-105, ♀, neotype of *S. idalius* and 106-111, ♀, lectotype of *S. vernalis* (Wesmael). 101, 106, pterostigma and marginal cell of fore wing; 102, 107, basal half of hind wing; 103, 110, propodeum and first metasomal tergite, dorsal aspect; 104, 111, base of antenna; 105, 108, propodeum and first tergite, lateral aspect; 109, clypeus and malar space, lateral aspect. 101-103, 105-108, 110: 1.0 × scale-line; 104: 2.3 ×; 109: 1.4 ×; 111: 2.0 ×.

Witzenhausen and Meensen; Neuburg/Donau, Finkenstein, Bay.; Oberbayern near München: Allershausen, Beuerburg,, Gauting, Hochstadt bei Wessling; Widdersberg, Andechs und Kerschlach bei Herrsching; Grainbach, bei Rosenheim, 800 m); **Ireland** (Powerscourt Deerpark, Co. Wicklow; Devil's Glen, Co. Wicklow; Glenmalur, Co. Wicklow; Bellylug, Co. Wicklow; Morlough Bay, Co. Antrim; Athdown, Co. Wicklow; Kippure House., Co. Wicklow; Carriglead, Co. Carlow; Ballinacourty, Co. Tipperary; Glending Wood, Co. Wicklow; Glenasmole, Co. Dublin; Clara, Co. Wicklow; Old Town, Co. Kildare; Saggart, Co. Dublin; Lucan, Co. Dublin; Phoenix Park, Co. Dublin; Glencree, Co. Wicklow; Bahana Wood, Co. Carlow; Ballystockan, Co. Wicklow; Dunkerron, Co. Kerry; Aherlow, south Co. Tipperary; Ballyhealy, Co. Westneath; Oldtown House, Co. Kildare; Manor Kilbride, Co. Wicklow; Tollymore Park, Co. Down; Old Head, Co. Mayo; Landenstown, Co. Kildare; Trawalua, Co. Sligo); **Italy** (Lazio, Rieti; Malcesine, VR, 500-1300 m); **Lithuania** (Kumbartitshkjai, det. Tobias as *S. vernalis*); **Netherlands** (Waarder, Z.-H.; Overveen, N.-H.; Meijendel, Z.-H.; Loosduinen, Z.-H.; Asperen, Z.-H.; Wageningen, Gld., on leaves of *Fagus sylvaticus*; Ommen, Ov.; Lelystad, Fl.; Marum, Gr.; St. Pietersberg, L.); **Portugal** (between Camacha & Poiso, Madeira); **Scotland** (Loch Arkaig, Inverness, native pine wood; Rassal NNR, W Ross; Caldarvan, Dumbs., mixed wood near pond); **Sweden** (1 ♀, ZIL, "Yd. [coll. Thomson]", "*vernalis* W., *cultus* M."); **Ukraine** (Sotsi, det. Tobias as *S. testaceus*); **Wales** (Dangranog, Cards; Tregaron, Cards; Mynachlog-ddu, Pembs.) (BMNH, CNC, KBIN, MNHN, NMS, NMW, RMNH, USNM; ZIL, ZISP, ZSM, ZUMC).

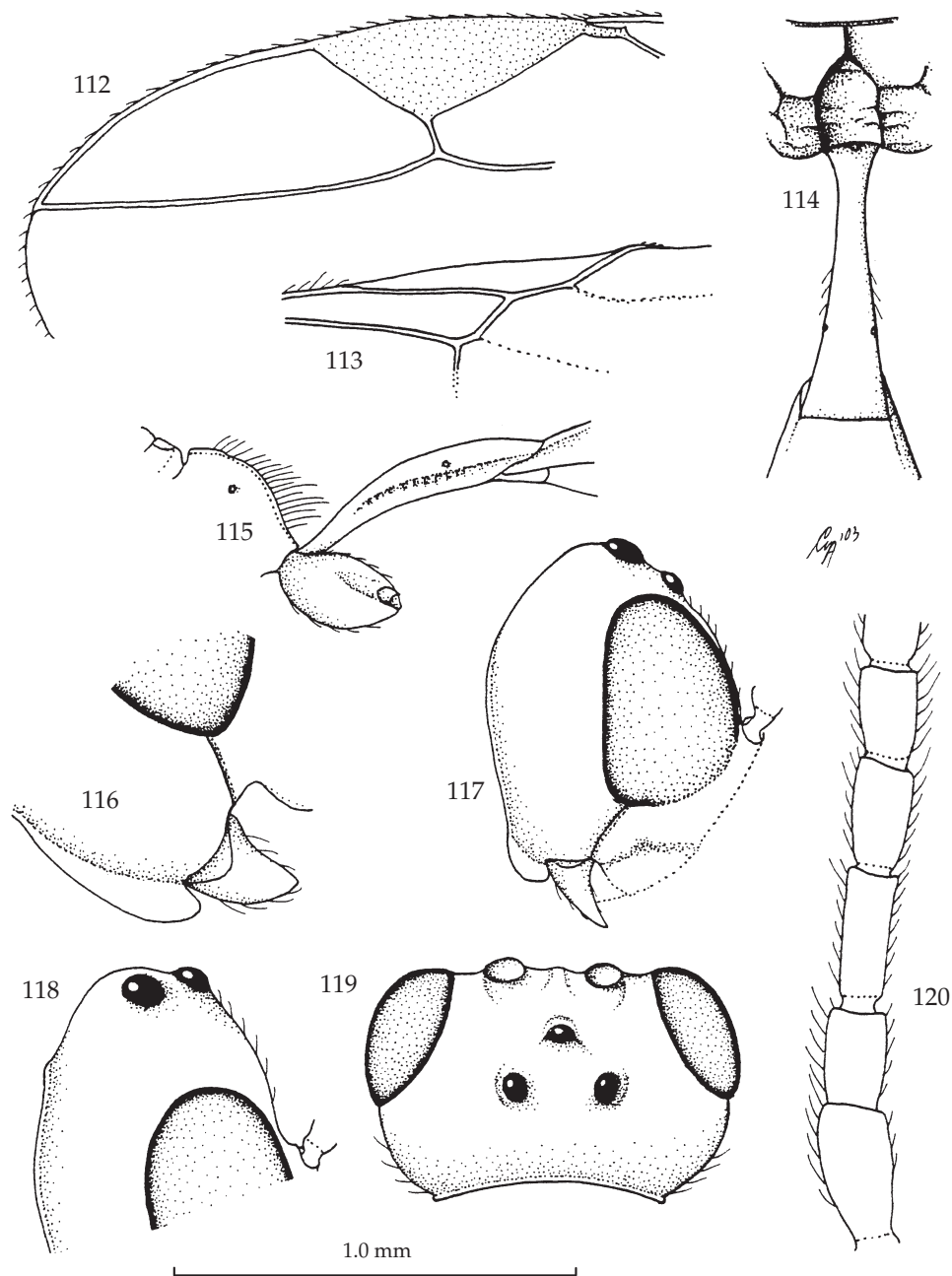
Lectotype of *S. cultus*, ♀, length of fore wing 2.6 mm, length of body 2.8 mm.

Head.— Antenna with 22 (left) or 23 (right) segments, fourth and following antennal segments rather robust (fig. 120), scapus 1.4 times longer than pedicellus (fig. 120), third antennal segment distinctly longer than pedicellus and 1.1 times as long as fourth segment, third, fourth, sixth and penultimate segments 2.7, 2.0, 1.5 and 1.8 times as long as wide, respectively (fig. 120); length of maxillary palp 0.9 times height of head; face and clypeus covered by glue, but as far as visible smooth except for some microsculpture dorsally, rather transverse and with short setosity and clypeus with some punctures and remainder smooth, distinctly convex, reaching lower level of eyes, setae rather long in other specimens; frons smooth and glabrous except for lateral setosity, and without median groove, flattened in front of anterior ocellus (fig. 118); eye suboval, width 1.2 times width of temple with full view of temple; eye in dorsal view 1.3 times as long as temple; temples weakly roundly narrowed behind eyes; length of malar space 0.8 times basal width of mandible; vertex in lateral view moderately protruding, about 0.3 times height of eye above upper level of eyes (fig. 117).

Mesosoma.— Antescutal depression medium-sized, deep; mesoscutum smooth (including notaulic area anteriorly), glabrous, except anteriorly; notauli rather impressed medially, smooth; scutellum weakly convex, smooth; metapleuron smooth, with oblique carina ventrally; propodeum anteriorly rather short and with coarse median carina, posteriorly steep, subvertical and with coarse areola, areola and latero-posterior area somewhat superficially rugose and with costulae (figs 114, 115).

Wings.— Fore wing: basal half of pterostigma rather robust, vein r emitted distinctly after middle (fig. 112); vein 1-R1 1.2 times as long as pterostigma, complete; vein SR1 nearly straight, ending close to apex of fore wing; marginal cell wide (fig. 112); basal and subbasal cells of fore wing nearly as densely setose as other cells. Hind wing: vein 1r-m medium-sized, about 0.6 times as long as vein 2-SC+R (fig. 113).

Legs.— Length of femur, tibia and basitarsus of hind leg 5.2, 12.0 and 9.3 times as long as their maximum width, respectively; hind basitarsus slender; fore femur rather slender, 5.0 times longer than wide.



Figs 112-120, *Syntretus idalius* (Haliday), ♀, lectotype of *S. cultus* (Marshall). 112, pterostigma and marginal cell of fore wing; 113, basal half of hind wing; 114, propodeum and first metasomal tergite, dorsal aspect; 115, propodeum and first tergite, lateral aspect; 116, malar space, lateral aspect; 117, head, lateral aspect; 118, head, latero-dorsal aspect; 119, head, dorsal aspect; 120, base of antenna. 112-115: 1.0 × scale-line; 116, 120: 2.3 ×; 117, 118: 1.5 ×; 119: 1.3 ×.

Metasoma.— First tergite largely smooth (except for some rugosity medially), in front of spiracles distinctly narrowed, slender (fig. 114), basal half of first tergite slightly widened basally, subcylindrical basally, sternite not separated by sutures, notum posteriorly rather flat (fig. 115), laterally mainly smooth, with some indistinct rugosity, without dorso-lateral carina; laterope absent; ovipositor sheath 0.18 times fore wing, 0.6 times hind tibia and 0.3 times as long as metasoma; apical quarter of ovipositor sheath somewhat widened.

Colour.— Yellowish-brown; antenna (except for four yellowish basal segments), stemmaticum, frons medially, metanotum, propodeum, first metasomal tergite, and ovipositor sheath dark brown or blackish; vertex medially, occiput dorsally and pronotum anteriorly, rather darkened; upper valve of ovipositor not visible; veins and pterostigma rather pale brown; pterostigma hardly darkened laterally; wing membrane subhyaline.

Distribution.— Austria, Belgium, Cyprus, Denmark, England, France, Germany, Ireland, Italy, Lithuania, Netherlands, Portugal, Scotland, Sweden, Ukraine and Wales. Mainly collected in May-June. Most common species of the genus in Europe; according to Belokobylskij (2000) also occurring in Far East Russia, Caucasia and Moldavia; under *S. testaceus* he lists also Siberia.

Variation.— Number of antennal segments of ♀ 19 (2), 20 (6), 21 (12), 22 (46), or 23 (32), of ♂ 19 (1), 20 (2), 21 (17), 22 (31), 23 (17) or 24 (2); maximum width of eye of ♀ in lateral view 0.9-1.2 times maximum width of temple; pronotum often strongly crenulate medially; notauli often shallowly impressed; mesosoma posteriorly and first tergite dark brown or black; mesoscutum frequently with a few punctures anteriorly; setae of clypeus as long as scapus; fourth antennal segment of ♀ usually 0.7-0.8 times third segment (figs 104, 111, 120); face more or less sculptured dorsally, but frequently only finely punctate; frons laterally distinctly punctulate; frequently whole mesosoma dark brown or blackish dorsally, but apically metasoma paler than first tergite, but sometimes also metasoma nearly completely darkened dorsally (e.g., ♀ from Mt Ventoux, France); body with dark brown pattern; clypeus distinctly punctate; eyes less protruding anteriorly in lateral view than *S. ocularis* spec. nov. (fig. 117); length of ovipositor sheath 0.18-0.21 times fore wing, 0.3-0.4 times length of metasoma, and 0.5-0.6 times hind tibia; apical half of metasoma yellowish, but rather dark brown in males. First tergite is very robust in a specimen from Krefeld (Germany; DEI) labelled as *vaginator* Ruthe, which seems to belong here! A female from the same series has a more slender first tergite but has vein 1-R1 of fore wing as long as pterostigma.

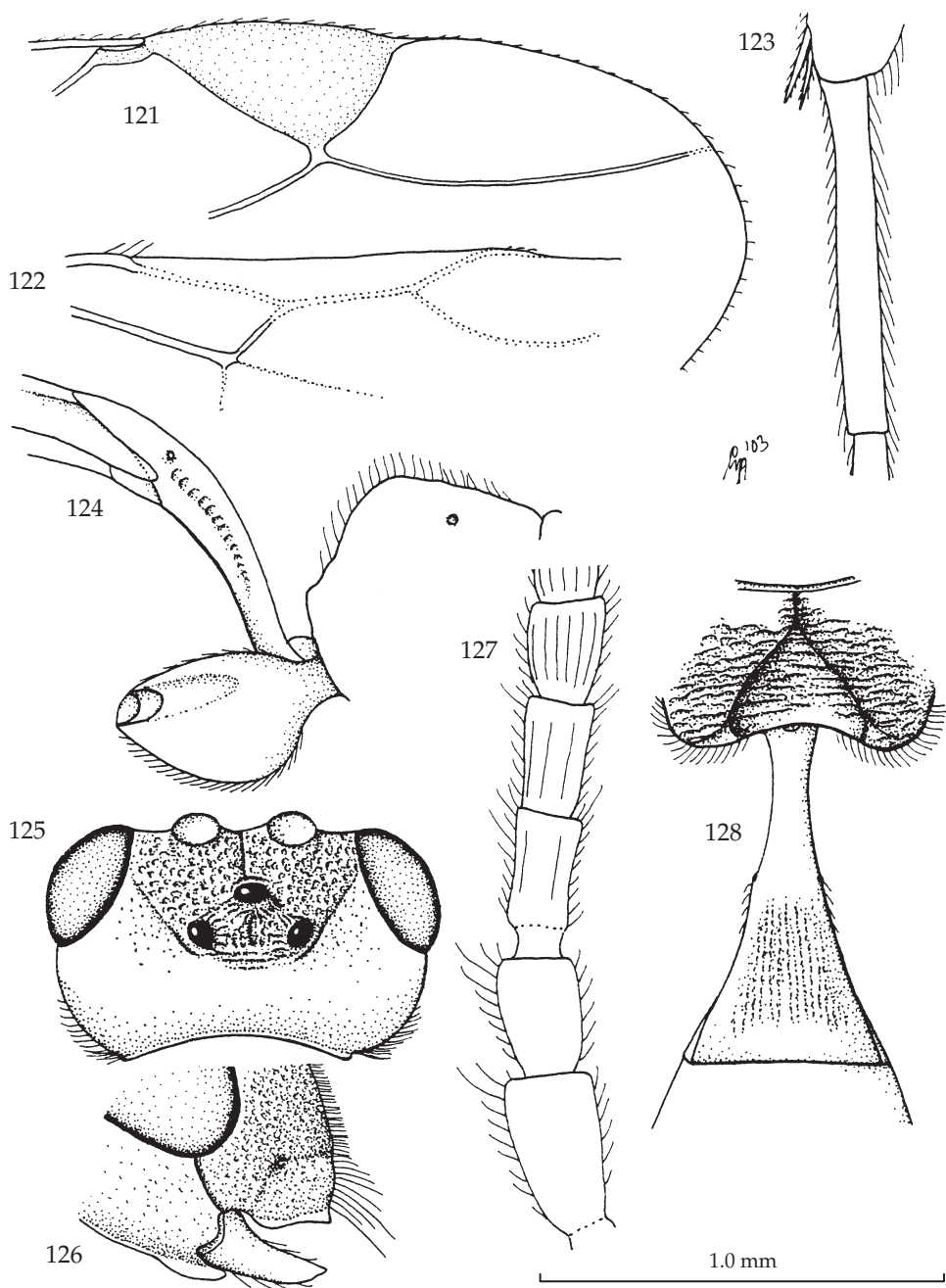
Note.— We have seen a male from Corsica (NMS: Corte, Val de Restonica, at light, 29.vii-3.viii.2001, M.R. Shaw) with a completely glabrous frons and the first tergite comparatively short, which seems to belong to an undescribed species.

Syntretus (*S.*) *klugii* (Ruthe, 1856)
(figs 121-128)

Microctonus klugii Ruthe, 1856: 290 [examined].

Syntretus klugii; Shenefelt, 1969: 131; Tobias, 1986: 245 (translation: 430).

Type material.— Lectotype here designated, ♀ (BMNH), "Type ", "B.M. Type 3.c.727", "B.M. Type Hym. *Microctonus klugii* Ruthe, 1856", "*M. Klugii* m., M.B", "Ruthe Coll. 59.101.", 59.101, **Germany**".



Figs 121-128, *Syntretus klugii* (Ruthe), ♀, lectotype. 121, pterostigma and marginal cell of fore wing; 122, basal half of hind wing; 123, hind basitarsus; 124, propodeum and first metasomal tergite, lateral aspect; 125, head, dorsal aspect; 126, clypeus and malar space, lateral aspect; 127, base of antenna; 128, propodeum and first tergite, dorsal aspect. 121, 122: 1.0 × scale-line; 124-126, 128: 1.1 ×; 127: 2.6 ×.

Ruthe (1856) mentioned 2 ♀♀ from the Botanical Garden in Berlin.

Additional material examined from: **Austria** (Oberweiden); **Germany** (Berlin, in the zoo, type locality of *S. klugii*); **Greece** (Melano Mts, Peloponnesos); **Moldavia** (Kishinev, det. Tobias as *S. klugii*); and **Russia** (Kondara, Tissarsk chr. Maddhj.) (BMNH, NMW, RMNH, ZISP; ZSM).

Lectotype, ♀, length of fore wing 3.3 mm, length of body 4.1 mm.

Head.— Antenna with 21 (right) or 22 (left) segments and half as long as body, fourth and following antennal segments rather robust (fig. 127), scapus distinctly larger than pedicellus (fig. 127), third antennal segment distinctly longer than pedicellus and 1.3 times as long as fourth segment, fourth and following segments with many thyloids, third, fourth, sixth and penultimate segments 2.2, 1.6, 1.2, and 1.8 times as long as wide, respectively (fig. 127); length of maxillary palp 0.6 times height of head; face finely and densely rugulose-punctate (but near tentorial pits flattened and nearly smooth), strongly transverse and with dense setosity (fig. 126); clypeus punctate, distinctly convex medially, more or less reaching lower level of eyes (fig. 126), setae long; frons coarsely reticulate-punctate and setose, with median groove (fig. 125), anteriorly without weak carina, rather convex in front of anterior ocellus; stemmaticum coarsely punctate, but vertex posteriorly smooth laterally sparsely punctate and shallow grooves converging to stemmaticum; eye large elliptical, directed ventrad; eye 1.1 times as long as temple in dorsal view; temples parallel-sided behind eyes; length of malar space 1.8 times basal width of mandible; occipital carina meeting hypostomal carina rather far dorsally; occipital flange rather large (fig. 126).

Mesosoma.— Antescutal depression rather small; pronotum coarsely reticulate-rugose; mesoscutum coarsely punctate, but notaulic area reticulate-punctate and mesoscutum laterally widely smooth, robust, especially anteriorly densely setose but smooth parts glabrous; notauli not impressed; scutellum rather flat, smooth, medio-posteriorly distinctly crenulate; precoxal area coarsely and densely reticulate punctate, anteriorly with some rugae, antero-dorsally reticulate punctate and remainder of mesopleuron mainly smooth; metapleuron coarsely punctate and ventrally rugose, with large metapleural flange; propodeum coarsely vermiculate rugose, but antero-laterally smooth, with short and coarse median carina connected to large concave areola, posteriorly steep, vertical and costulae invisible because of sculpture (figs 124, 128).

Wings.— Fore wing: basal half of pterostigma robust, subtruncate apically, swollen and vein r emitted distinctly after middle (fig. 121); vein 1-R1 only basally narrowly developed, anterior length of marginal cell 1.3 times as long as pterostigma; vein SR1 curved, ending rather close to apex of fore wing and far from apex of pterostigma, apically reduced; marginal cell wide (fig. 121); basal and subbasal cells of fore wing somewhat less densely setose than apical cells. Hind wing: vein 1r-m medium-sized, about half as long as vein 2-SC+R, but veins 1-SC+R, 2-SC+R, SC+R1 and R1 reduced, unsclerotised (fig. 122); vein cu-a hardly sclerotised basally.

Legs.— Length of femur, tibia and basitarsus of hind leg 3.8, 9.4 and 8.2 times as long as their maximum width, respectively; hind tibia straight subapically; hind basitarsus slender (fig. 123); fore femur hardly inflated, 4.6 times longer than wide; inner tooth of tarsal claws about as wide as apical tooth.

Metasoma.— First tergite rather long, smooth but posterior half mainly rugulose (fig. 128), no median carina in front of spiracles and without small depressions poste-

riorly, in front of spiracles gradually narrowed (fig. 128), tergite slightly widened basally, basal half trapezoid-shaped, and sternite not separated by sutures, tergite in lateral view distinctly curved, without dorso-lateral carina, laterope absent and near spiracle distinctly rugose (fig. 127), notum strongly widened posteriorly, subtriangular and rather flat (fig. 124); ovipositor sheath rather robust, 0.24 times fore wing, 0.6 times hind tibia and 0.4 times as long as metasoma.

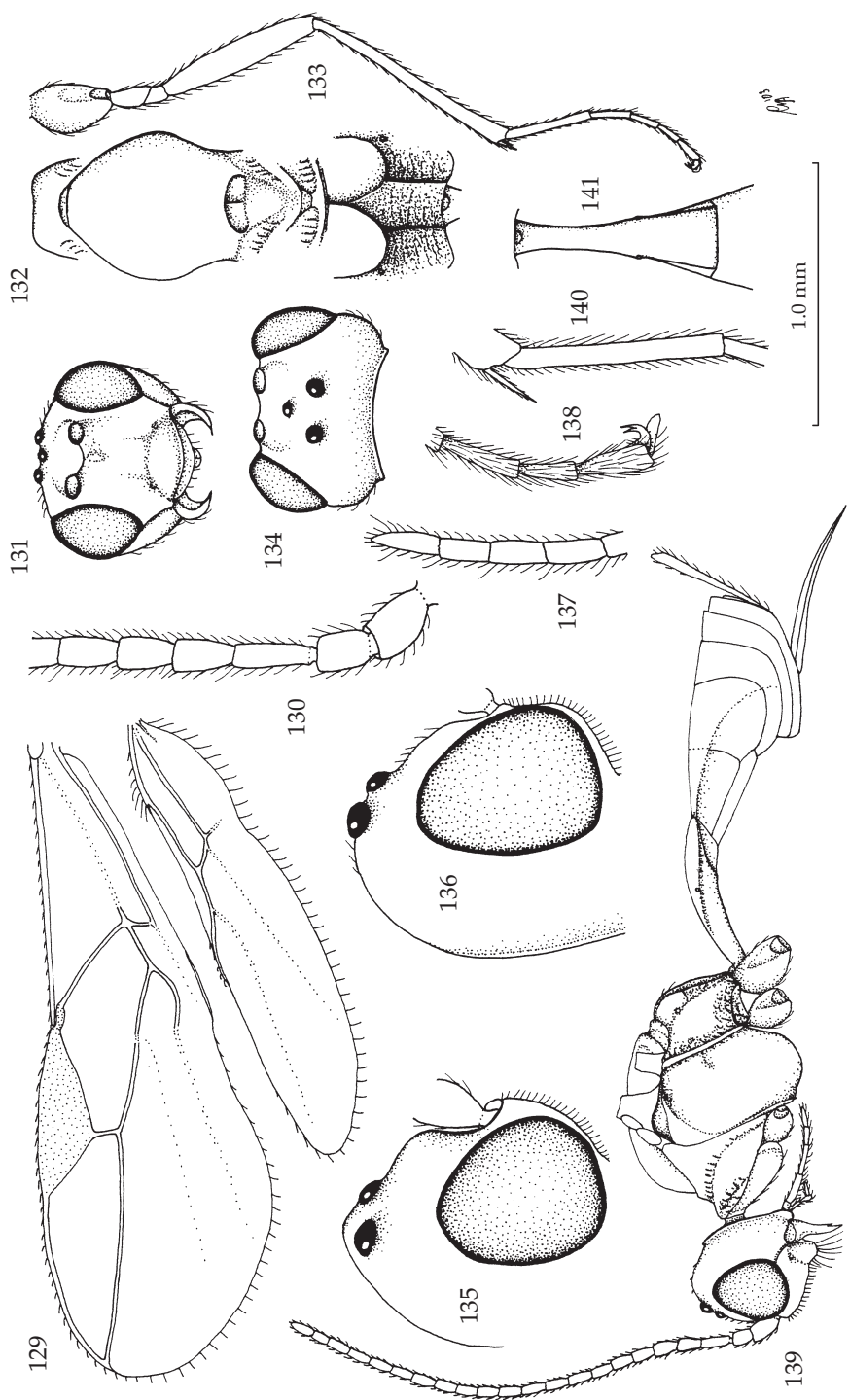
Colour.— Dark brown or blackish; antenna (except for yellowish scapus), palpi and base of hind coxa rather dark brown; clypeus, face, frons laterally, temple, legs, tegulae, veins of fore wing (but SR1 unpigmented) and pterostigma yellowish-brown; wing membrane subhyaline; both valves of ovipositor yellowish.

Distribution.— Austria, Germany, Greece, Moldavia, and Russia. Mainly collected in April-May; rare in collections.

Variation.— Number of antennal segments of ♀ 22 (1), and of ♂ 19 (1), 20 (2), 21 (3), or 22 (2).

Syntretus (*S.*) *ocularis* spec. nov.
(figs 129-141)

Type material.— Holotype, ♀ (RMNH), “**Nederland**, Waarder (Z.-H.), Oosteinde 33, 29.vi-1.vii.1973, C. van Achterberg”. Paratypes (58 ♀♀ + 64 ♂♂): 1 ♀ (RMNH), id., but 28-31.v.1973; 1 ♀ + 4 ♂♂ (RMNH), id., but 20-22.vi.1973; 4 ♂♂ (RMNH), id., but 23-25.vi.1973; 1 ♂ (RMNH), id., but 29.vi-1.vii.1973; 1 ♀ (RMNH), id., but 18-22.vii.1974; 1 ♂ (RMNH), id., but 15-22.vii.1975; 1 ♀ (RMNH), id., but Oosteinde [34], 11-16.vii.1972; 1 ♂ (RMNH), id., 17-19.vii.1972; 1 ♀ (RMNH), “**Nederland**, Wijster (Dr.), opposite Biol. Stat., 3-14.v.1974, C. v. Achterberg”; 1 ♂ (RMNH), “**Holland**, Asperen, 20.v.1972, C.J. Zwakhals”; 1 ♀ (RMNH), “[**Netherlands**], Meiendel, 12, 10.vi.[19]23”, “509”; 1 ♀ (NMW), “**Austria**, O-Stmk., Lungitzbach, Ufer b[ei] St. Johann-Haide, 11-12.vi.1966, [M.] Fischer”; 1 ♀ (RMNH), “**Bulgaria**, ex coll. Zaykov, RMNH Leiden 1991”, “h. Rueu, 29.vii.1967, [A.] Zaykov”; 1 ♀ + 1 ♂ (NMS), “[**England**], Richmond Park, Surrey, Fog 5/58, 26.vi.1984, N.E. Stork, RSMNH 1988.003, tree 3”; 1 ♀ + 1 ♂ (RMNH), id., but 26.vi.1984, fog 5/14, tree 1 and 2; 2 ♀♀ (NMS), id., but 11.vii.1984, fog 6/5 or 6/11, tree 1; 2 ♀♀ + 16 ♂♂ (NMS, RMNH), “[**England**], Abbots Moss, Cheshire, SJ 5868, Malaise Trap 1 or 2, *Quercus/Betula/Pinus*, 12-27.vi.[19]86, R.R. Askew, NMSZ 1988.002”; 1 ♂ (NMS), id., but 27.v-12.vi.1988; 3 ♀♀ + 2 ♂♂ (NMS, RMNH), id., but 27.vi-23.vii.1986; 2 ♀♀ + 3 ♂♂ (NMS, RMNH), “[**England**], Chippenham Fen, Cambs., TL 650693, Malaise trap, carr at reedbed edge A, or B, 25.vi-5.vii.[19]85, J. Field, NMSNH 1986.021”; 2 ♀♀ (NMS), “[**England**], Santon Downham, Norfolk., TL 818883, Malaise trap, heath with birch and pine, 16-25.v.[19]83 or 2-11.vi.[19]83, J. Field, NMSNH 1986.021”; 1 ♀ (NMS), “[**England**], Wychwood Forest, Oxon, SP 342167, Mal. Tr., 15.vi-17.vii.[19]90, NMSZ 1993.074”; 1 ♀ (NMS), “[**England**], Windsor Forest, Berks., SU 945705, Mal. Tr., 26.vi-27.vii.[19]92, NMSZ 1997.147”; 1 ♂ (NMS), “[**England**], Frilford Heath, Oxon., SU 442986, Malaise Trap, 25.v-18.vi.1991, K. Porter, NMSZ 1994.010”; 2 ♂♂ (NMS), id., but 18.vi-12.vii.1991 or 12.vii-1.viii.1991; 1 ♂ (NMS), “[**England**], Savernake Forest, Wilts., SU 229656, Mal. Tr., 2-22.v.1990, NMSZ 1993.033”; 1 ♀ (NMS), “**France**: Lot-et-Garonne, Bernac, 10-17.v.1996, Mal. Trap, R.R. Askew”; 1 ♀ (MNHN), “Muséum Paris, 1867, coll. O. Sichel”, “*M. vernalis* Wesm.”; 1 ♀ (ZSM; specimen completely yellowish, bleached as others from this locality), “[**Germany**], Bechtaler Wald C6, B, 25.v.[19]84”; 3 ♀♀ + 1 ♂ (ZSM, RMNH), id., but 14.v.1986, Hilpert; 1 ♂ (ZSM), id., but 7.v.1986; 2 ♂♂ (ZSM), id., but 28.v.1986; 1 ♀ (RMNH), id., but 25.v-1.vi.1984; 1 ♀ (ZSM), id., but 15.v-1.vi.1984, Südbaden; 2 ♀♀ + 1 ♂ (ZSM, RMNH), id., but 21.v.1986; 1 ♀ (ZSM), id., but 22-29.v.1985; 4 ♂♂ (ZSM, RMNH), id., but 11-18.v.1984; 3 ♀♀ (ZSM, RMNH), id., but 15-22.v.1985, Südbaden; 1 ♀ + 2 ♂♂ (ZSM, RMNH), id., but 18.vi.1986; 1 ♀ (RMNH), id., but 2.vii.1986; 1 ♀ (ZSM), id., but 13-20.vii.1984; 1 ♀ (ZSM), id., but 17-24.vii.1985; 1 ♀ (ZSM), id., but 24.vi-1.vii.1983; 1 ♀ (ZSM), id., but 8.vii.1983; 1 ♂ (ZSM), id., but 29.vii-6.viii.1984; 1 ♀ (DEI), “[**Germany**], Umg. Krefeld, coll. Mink”; 1 ♂ (ZSM), “[**Germany**], Grüneck b[ei]



Figs 129-141, *Syntretus ocularis* spec. nov., ♀, holotype. 129, wings; 130, base of antenna; 131, head, frontal aspect; 132, mesosoma, dorsal aspect; 133, hind leg; 134, head, dorsal aspect; 135, head, dorso-lateral aspect; 136, head, lateral aspect; 137, apex of antenna; 138, inner hind claw; 139, habitus, lateral aspect; 140, hind basitarsus; 141, first metasomal tergite, dorsal aspect. 129, 133, 139: 1.0 × scale-line; 130, 135-140: 2.5 ×; 131, 132, 134, 141: 1.3 ×.

Freising, 15.v.1968, Haeselb."; 1 ♂ (CNC), "[Germany], Aggertal, Siegburg-Lohmar, 7.v.1961"; 1 ♂ (ZSM), "[Germany], Lippoldshausen, C, 5.v.1966, Haeselbarth"; 1 ♀ (ZSM), "[Germany], Bramwald, Nd.sachsen, C, 30.vii.1967, Hbth"; 1 ♀ (ZSM), "D [= Germany], BY, Hohenschwangau, Wildsulz, 1420-1560 m, 16.vii.1974, Haeselbarth"; 1 ♀ (ZSM), "[Germany], Witzenhausen, E, 30.v.1966, Haeselbarth"; 1 ♂ (BMNH), "1.vi.[18]56.1", "59.101, Germany", "*M. vernalis* Wsm", "Ruthe Coll. 59.101"; 1 ♀ + 1 ♂ (on one card) (BMNH), id., but no date; 1 ♂ (BMNH), id., but 12.vi.1858; 1 ♀ (NMW), "[Italy], Bozen [= Bolzano], S. Tirol"; 1 ♂ (ZSM), "I [= Italy], VR, Garda, M. Lenzino, 300-450 m, 13-18.v.[19]83, Haeselb."; 1 ♀ + 2 ♂ ♂ (NMS), "[Scotland], Rassal NNR, W. Ross, NC 845432, Mal. tr., 15-31.v.[19]91 (but ♀ 1-15.vi.1992), P.W. Brown, NMSZ 1992.022"; 1 ♀ (NMS), "[Scotland], Caldervan Dumbs., NS 450836, Mal. trap, mixed wood by pond, 25.v-8.vi.[19]83, I.C. Christie"; 1 ♀ (NMS), "[Scotland], Rannoch, Perth., NN 565590, Mal. Trap, native pinewood, vi.[19]90, NMSZ 1992.002"; 1 ♀ (NMS), "**Turkey**: Bolu., Abant Ȳzzet Baysal Univ., 11-14.vi.1999, M.R. Shaw; 1 ♀ (ZISP), [**Ukraine**: Crimea], Jalta, Nikitski, 29.viii.[19]30, [N.A.] Telenga" (det. Telenga as *S. testaceus*); 3 ♀ ♀ + 2 ♂ ♂ (BMNH, RMNH), "**Wales**: Cards, Llangranog, 23.vi.1977", "Noyes & Boucek, Brit. Mus. 1977-308"; 1 ♀ + 1 ♂ (BMNH), "Wales: Cards, Mynachlog-ddu, 23.vi.1977", "Noyes & Boucek, Brit. Mus. 1977-308"; 1 ♀ (BMNH), "Wales: Cards, Tregaron, 21.vi.1977", "J.S. Noyes, Brit. Mus. 1977-308".

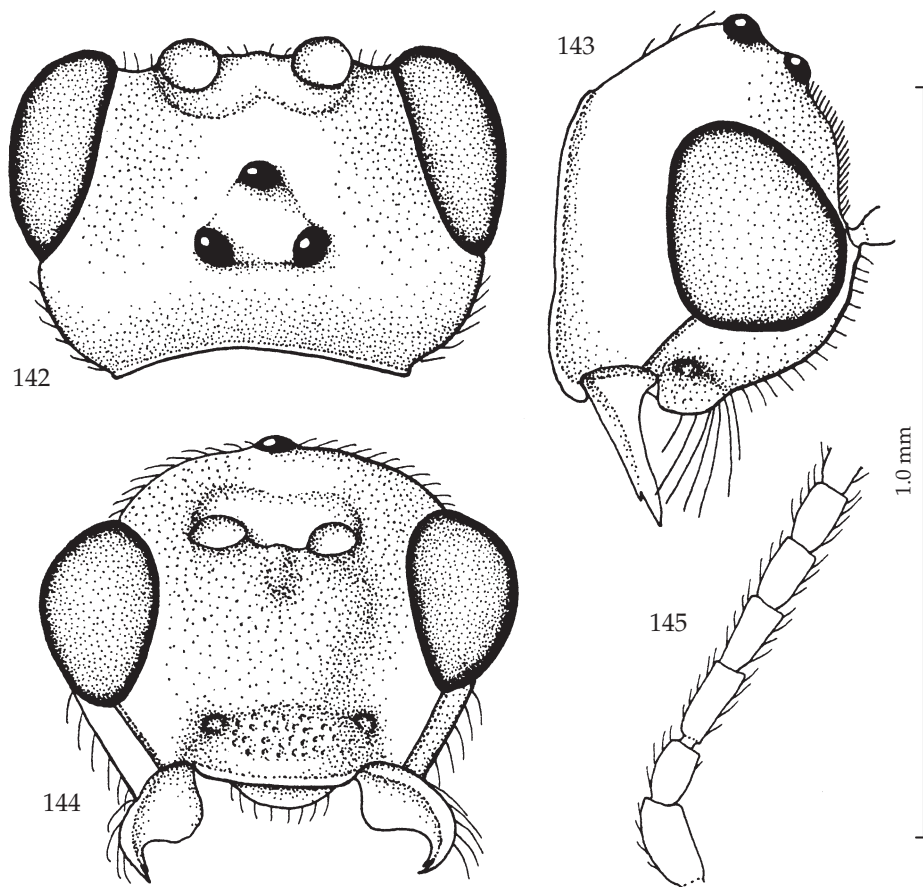
Holotype, ♀, length of fore wing 2.4 mm, length of body 2.9 mm.

Head.— Antenna with 22 segments, fourth and following antennal segments slender (figs 130, 137), scapus slightly longer than pedicellus (fig. 130), third antennal segment distinctly longer than pedicellus and 1.4 times as long as fourth segment, third, fourth, sixth and penultimate segments 2.6, 1.8, 1.6 and 2.0 times as long as wide, respectively (figs 130, 137); length of maxillary palp 1.1 times height of head; face smooth except for some microsculpture dorsally, rather transverse and with short setosity (fig. 131); clypeus with some punctures and remainder smooth, distinctly convex, reaching lower level of eyes (fig. 131), setae rather long; frons smooth and glabrous except for a few widely spaced setae and some punctulation, and with weak median groove, distinctly convex in front of anterior ocellus (fig. 135); only European species with eye subtriangular **and** frons largely glabrous, distinctly protruding anteriorly (figs 135, 136, 139); eye in dorsal view 1.5 times as long as temple; temples parallel-sided behind eyes (fig. 134); length of malar space 1.1 times basal width of mandible; vertex in lateral view moderately protruding, 0.3 times height of eye above upper level of eyes (fig. 136).

Mesosoma.— Antescutal depression rather narrow, deep (fig. 132); mesoscutum smooth (including notaulic area anteriorly), glabrous; notauli absent; scutellum weakly convex, smooth; metapleuron smooth medially, rugose ventrally and anteriorly; propodeum anteriorly rather short and with coarse median carina, posteriorly steep and with coarse areola, areola and latero-posterior area rugose and with costulae (figs 132, 139).

Wings.— Fore wing: basal half of pterostigma rather robust, vein r emitted distinctly after middle (fig. 129); vein 1-R1 1.2 times as long as pterostigma, complete; vein SR1 nearly straight, ending close to apex of fore wing and marginal cell moderately wide (fig. 129); basal and subbasal cells of fore wing nearly as densely setose as other cells. Hind wing: vein 1r-m medium-sized, about half as long as vein 2-SC+R (fig. 129).

Legs.— Length of femur, tibia and basitarsus of hind leg 5.5, 13.4 and 8.7 times as long as their maximum width, respectively (fig. 133); hind basitarsus slender (fig. 140); fore femur rather slender, 5.6 times longer than wide.



Figs 142-145, *Syntretus grodekovi* Belokobylskij, ♀, holotype. 142, head, dorsal aspect; 143, head, lateral aspect; 144, head, frontal aspect; 145, base of antenna. 142-145: 1.0 × scale-line.

Metasoma.— First tergite largely smooth (except some indistinct rugosity medially), in front of spiracles rather narrowed, slender (fig. 141), basal half of first tergite slightly widened basally, cylindrical basally, sternite not separated by sutures, notum posteriorly moderately convex, laterally mainly smooth, with some indistinct rugosity, without dorso-lateral carina; laterope absent (fig. 139); ovipositor sheath 0.19 times fore wing, 0.5 times hind tibia and 0.3 times as long as metasoma; ovipositor sheath widened apically.

Colour.— Yellowish-brown; antenna (except for three yellowish basal segments and brown fourth segment), stemmaticum, scutellum, metanotum, propodeum, first metasomal tergite, and ovipositor sheath blackish; pronotum anteriorly, mesoscutum medially and posteriorly (but notaulic area yellowish) and metasoma largely dark brown; upper valve of ovipositor and telotarsi largely brown; veins and pterostigma rather pale brown, pterostigma hardly darkened laterally; face, clypeus, mandible, palpi and tegulae pale yellowish; wing membrane subhyaline.

Distribution.— Austria, Bulgaria, England, France, Germany, Ireland, Italy, Netherlands, Scotland, Turkey, Ukraine and Wales. Mainly collected in June–July. The large series from Bechtaler Wald (near Neurenberg) has been collected during a survey with emergence traps (“ground-photo-electors”) in a *Quercus/Carpinus/Fagus* forest (Hilpert, 1989).

Variation.— Length of fore wing 2.3–2.5 mm, length of body 2.6–2.9 mm; antennal segments of ♀ 18 (1), 19 (1), 20 (2), 21 (13), 22 (26), 23 (12) or 24(3), and of ♂ 19 (1), 20 (2), 21 (9), 22 (19), 23 (23) or 24 (5). Maximum width of eye in lateral view of ♀ 1.3–1.7 times maximum width of temple (of ♂ 1.1–1.4 times); length of ovipositor sheath 0.14–0.19 times fore wing. First metasomal tergite of ♀ usually smooth dorsally, of ♂ distinctly rugulose; notauli may be shallowly impressed; eyes of males and of small specimens less protruding than normal for the species; rarely body completely dark brown; 5–6 basal antennal segments may be yellowish; rarely the frons is extensively setose and superficially punctate (except medially); body may be completely yellowish-brown except for the stemmaticum.

Notes.— The only described species with similar subtriangular eyes and protuberant frons is *Syntretus grodekovi* Belokobylskij, 2000, from Far East Russia. However, *S. grodekovi* has the vertex more protuberant (in lateral view the part above the eye about 0.5 times height of eye: fig. 143), anteriorly the eyes are more protuberant in dorsal view (fig. 142), the head is less transverse (fig. 142), the clypeus is densely and coarsely punctate (fig. 144), the face is more transverse (fig. 144) and the frons is densely setose laterally (fig. 143). The antenna of the only known ♀ consists of 24 segments.

Syntretus (*S.*) *parvicornis* (Ruthe, 1862)
(figs 146–156)

Microctonus parvicornis Ruthe (in Reinhard), 1862: 323 [examined].

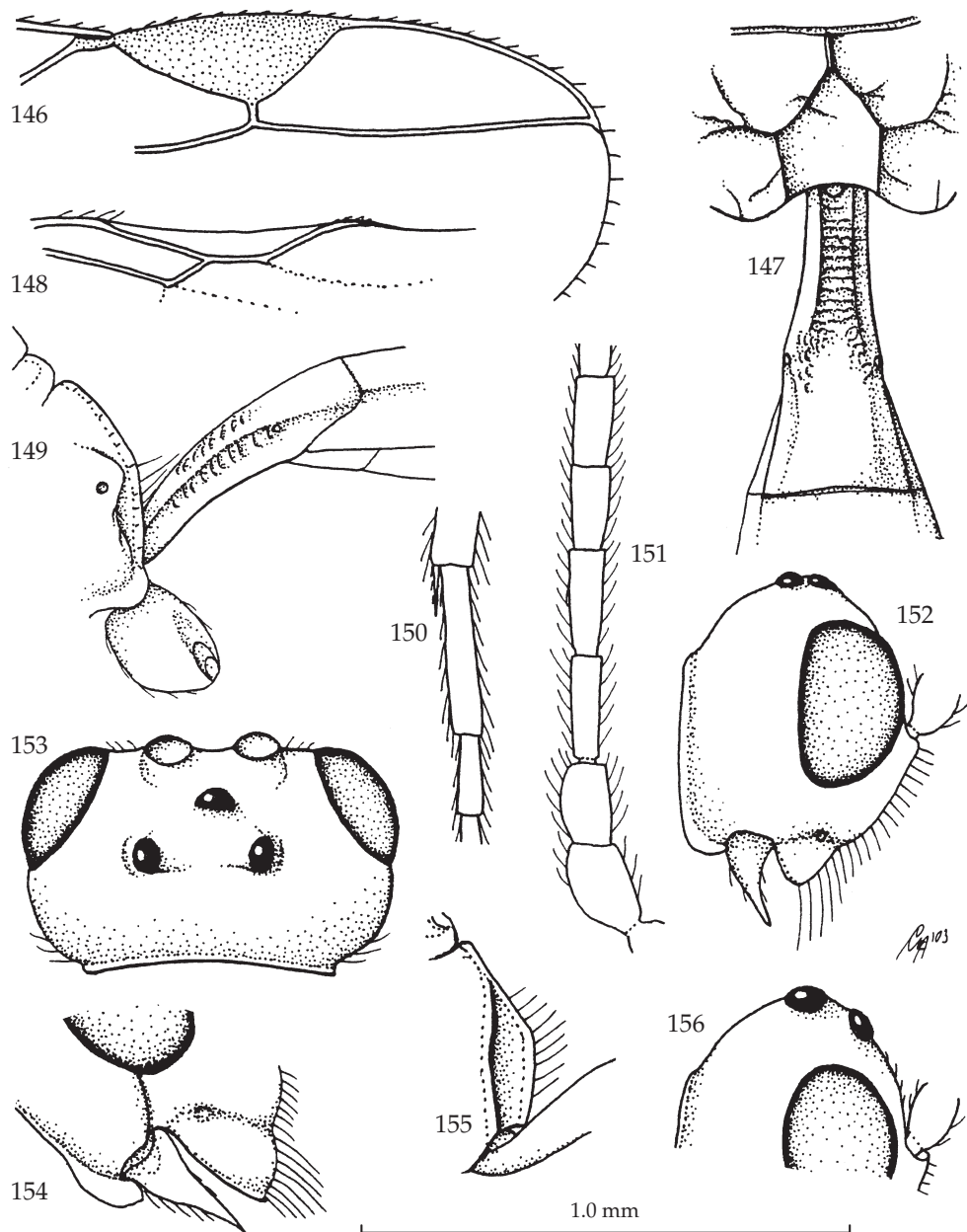
Syntretus parvicornis; Shenefelt, 1969: 131–132; not: Tobias, 1986: 246 (translation: 431).

Type material.— Holotype, ♂ (BMNH), “Type ”, “B.M. Type 3.c.731”, “B.M. Type Hym. *Microctonus parvicornis* Ruthe, 1856”, “*M. parvicornis* m., [Germany]”.

Additional material examined from: **France** (near Ponte Leccia, Corsica, 600 m) and **Germany** (Bechtaler Wald, Südbaden) (BMNH, CNC, RMNH, ZSM).

Holotype, ♂, length of fore wing 1.9 mm, length of body 1.9 mm.

Head.— Antenna with 16 (right) or 17 (left) segments (0.7 times length of body), fourth and following antennal segments slender (fig. 151), scapus slightly longer than pedicellus (fig. 151), third antennal segment distinctly longer than pedicellus and as long as fourth segment, third, fourth, sixth and penultimate segments 2.5, 2.2, 1.8 and 2.0 times as long as wide, respectively (fig. 151); length of maxillary palp equal to height of head; face smooth, transverse and with medium-sized setosity (fig. 152); clypeus with some punctures and remainder smooth, distinctly convex, remaining below lower level of eyes (fig. 152), setae rather long; frons smooth and glabrous except for a few lateral setae and punctures, and without median groove, distinctly convex, rather declivous in front of anterior ocellus; ocelli rather small; eyes subcircular (fig. 152), not protruding forward; eye in dorsal view 1.1 times as long as temple; temples parallel-sided behind eyes (fig. 153); length of malar space equal to basal



Figs 146-156, *Syntretus parvicornis* (Ruthe), ♂, holotype. 146, pterostigma and marginal cell of fore wing; 147, propodeum and first metasomal tergite, dorsal aspect; 148, basal half of hind wing; 149, propodeum and first tergite, lateral aspect; 150, hind basitarsus; 151, base of antenna; 152, head, lateral aspect; 153, head, dorsal aspect; 154, clypeus and malar space, lateral aspect; 155, propodeum, dorso-lateral aspect; 156, head, dorso-lateral aspect. 146, 148: 1.0 × scale-line; 147, 149: 1.6 ×; 150, 152-156: 1.5 ×; 151: 2.0 ×.

width of mandible; maximum width of eye in lateral view equal to maximum width of temple; vertex in lateral view protruding 0.5 times height of eye above upper level of eyes (fig. 152); occipital flange narrow.

Mesosoma.— Antescutal depression medium-sized, deep; mesoscutum smooth (including notaulic area anteriorly), glabrous; notauli absent; scutellum flattened, smooth; metapleuron smooth except for some rugae ventrally and dorsally; propodeum anteriorly rather short and with coarse median carina, posteriorly steep and with coarse areola, areola and latero-posterior area mainly smooth and with distinct costulae (figs 147, 149, 155).

Wings.— Fore wing: basal half of pterostigma rather robust, vein r emitted distinctly after middle (fig. 146); vein 1-R1 1.2 times as long as pterostigma, complete; vein SR1 straight, ending close to apex of fore wing and marginal cell moderately wide (fig. 146); basal and subbasal cells of fore wing nearly as densely setose as other cells. Hind wing: vein 1r-m medium-sized, nearly as long as vein 2-SC+R (fig. 148).

Legs.— Length of femur, tibia and basitarsus of hind leg 4.1, 11.0 and 4.7 times as long as their maximum width, respectively; hind basitarsus rather short (fig. 150); fore femur inflated, 3.6 times longer than wide.

Metasoma.— Apical half of first tergite largely smooth, basal half with some rugosity medially (fig. 147; also in ♀) and bordered by dorso-lateral carinae, in front of spiracles distinctly narrowed, tergite rather robust (fig. 147), basal half of first tergite slightly widened, trapezoid-shaped basally, its sternite separated by sutures, notum posteriorly moderately convex (fig. 147); laterally mainly smooth, but basal half with distinct crenulation; laterope absent.

Colour.— Dark brown; antenna (except for four yellowish basal segments), face and clypeus, temple ventrally and anteriorly, pronotum, mesosoma laterally and ventrally, palpi, tegulae, first tergite narrowly basally, and legs (but telotarsi dark brown) yellowish-brown; veins and pterostigma pale yellowish, pterostigma not darkened laterally; wing membrane subhyaline.

Distribution.— France and Germany. Rarely collected and mainly in May. Listed by Tobias (1986) for northwestern Russia and Caucasus (Georgia) but this refers to another species with 18-20 antennal segments.

Variation.— Antennal segments of ♀ 16 (2) or 17 (2), of ♂ 16 (1); maximum width of eye in lateral view 1.0 (♂)-1.2 (♀) times maximum width of temple; hind coxa may be yellowish or dark brown; length of ovipositor sheath about 0.11 times fore wing, 0.35 times hind tibia and 0.2 times metasoma; face, vertex, temple, and pronotum may be yellowish to rather dark brown; mesoscutum brown to blackish-brown, but bleached to yellowish-brown in a ♀ from Bechtaler Wald; ovipositor sheath widened apically and ovipositor rather curved.

Syntretus (S.) *politus* (Ruthe, 1856)
(figs 157-164)

Microctonus politus Ruthe, 1856: 290; Shenefelt, 1969: 132 (as synonym of *S. idalius* (Haliday, 1833) [examined].

Syntretus cynthius Lyle, 1927: 85; Shenefelt, 1969: 130; van Achterberg & O'Toole, 1993: 14 (lectotype designation) [examined]. **Syn. nov.**

Type material.— Holotype of *M. politus*, ♂ (BMNH), "59.101, **Germany**", "♀ ♂", "*M. nitidus* Rut.", "Ruthe coll. 59.101.", "*M. nitidus* m." (in Ruthe's handwriting), "under *conterminus* in BM coll.". In BMNH under *S. conterminus* is a male from the Ruthe collection labelled "*M. nitidus* m." in Ruthe's handwriting. However, Ruthe never published a species under the name of "*nitidus*" and this specimen is doubtless the missing holotype of *Microctonus politus* Ruthe, 1856, and is labelled accordingly. The antenna has 25 segments as mentioned by Ruthe (1856). Lectotype of *S. cynthius*, ♀ (OUM), "Type", "562c", "549e", "[**England**], ex coll. J.C. Dale, Pres. 1906 C.W.D.", "*Perilitus cynthius* Curt. Name in Dale Coll.", "Type *Syntretus* (*Microctonus*) *cynthius* G.T. Lyle, Entomologist, ix, p. 83, 1927", "Type Hym. 2479 ?, *Syntretus cynthius* Lyle, 1927. Lectotype ♀, Hope Ent. Coll., OUMNH"; paralectotypes, 1 ♀ + 2 ♂ ♂ (OUM), same data.

Additional material examined from: **Austria** (Salzburg, Parsch, at border of forest; id., Salzachau); **Bulgaria** (Chrabrino, Rhodopi Mts; Srebarna; Topolovo, Rhodopi Mts); **England** ("Angleterre, Marshall"); **Ireland** (Tinode, Co. Wicklow, det. Stelfox as *S. cynthius*); Enniskerry, Co. Wicklow; Tollymore Park, Co. Down; Clara, Co. Wicklow; Devil's Glen, Co. Wicklow, det. Stelfox as *S. cultus*); Deputy's Pass, Co. Wicklow; Ballyhubbock, Co. Wicklow; Old Head, Co. Mayo; Royal Canal, Co. Kildare; Landenstown, Co. Kildare; Cahoon, Co. Cavan); **Italy** (Riva s. Garda, 500 m, TN); **Spain** (near Ribas); and **Sweden** (Dalby, Sk.) (BMNH, MNHN, NMS, NMW, OUM, RMNH, USNM, ZSM).

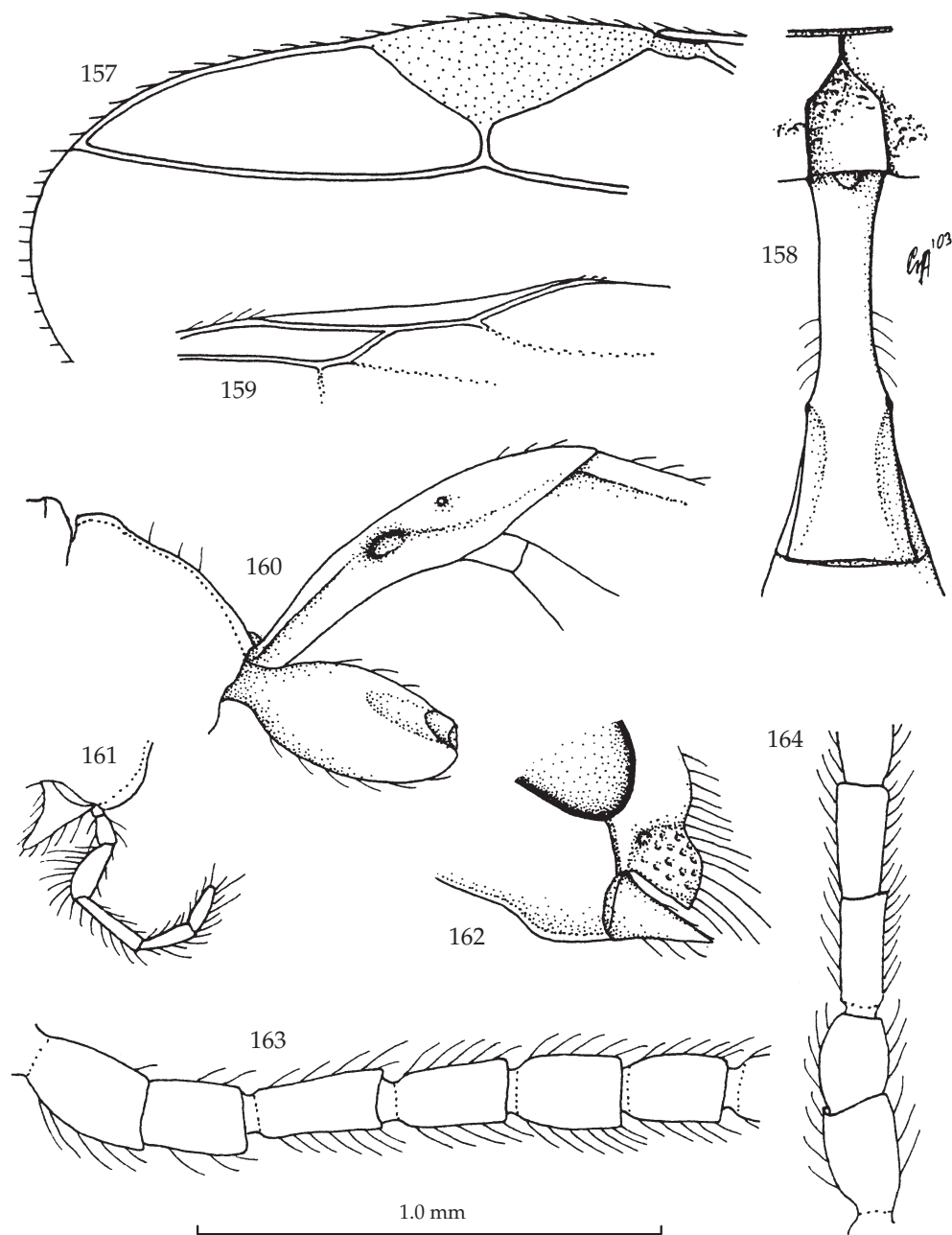
Holotype of *S. politus*, ♂, length of fore wing 2.4 mm, length of body 2.4 mm.

Head.— Antenna with 25 segments, fourth and following antennal segments slender and densely bristly setose (fig. 164), scapus slightly longer than pedicellus (fig. 164), third antennal segment distinctly longer than pedicellus and 1.1 times as long as fourth segment, third, fourth, sixth and penultimate segments 2.7, 2.3, 1.7, and 1.5 times as long as wide, respectively (fig. 164); length of maxillary palp 0.8 times height of head; face smooth, distinctly transverse and with rather long setosity (fig. 162); clypeus coarsely punctate, distinctly convex, dorsally above lower level of eyes (fig. 162), setae long; frons smooth, glabrous except for few setae laterally, without median carina anteriorly and with narrow median groove, distinctly declivous in front of anterior ocellus; eye elongate elliptical, not protruding anteriorly; eye in dorsal view 0.9 times as long as temple; temples parallel-sided behind eyes, nearly parallel-sided; length of malar space 0.9 times basal width of mandible.

Mesosoma.— Antescutal depression narrow; mesoscutum smooth (except for notaulic area), glabrous, except anteriorly; notauli absent, but area anteriorly distinctly punctate and dorsally superficially rugulose; scutellum rather flat, smooth, without medio-posterior impression; metapleuron with several punctures, and ventrally with some rugae, posteriorly smooth; propodeum anteriorly short, and with short median carina, posteriorly gradually declivous, with distinct but weak areola and costulae (figs 158, 160).

Wings.— Fore wing: basal half of pterostigma rather wide, vein r emitted moderately far after middle (fig. 157); vein 1-R1 1.1 times as long as pterostigma, complete; vein SR1 nearly straight, ending close to apex of fore wing; marginal cell comparatively wide (fig. 158); basal and subbasal cells of fore wing nearly as densely setose as other cells. Hind wing: vein 1r-m rather short, about half as long as vein 2-SC+R (fig. 159); vein cu-a absent (left wing) or with distinctly sclerotised basally (right wing).

Legs.— Length of femur, tibia and basitarsus of hind leg 5.2, 10.9 and 6.0 times as long as their maximum width, respectively; hind basitarsus rather slender; fore femur rather inflated but slender, 4.6 times longer than wide; tarsal claws gradually bent and inner tooth slender.



Figs 157-164, *Syntretus politus* (Ruthe), ♂, holotype, but 163 of ♀, lectotype of *S. cynthius* Lyle. 157, pterostigma and marginal cell of fore wing; 158, propodeum and first metasomal tergite, dorsal aspect; 159, basal half of hind wing; 160, propodeum and first tergite, lateral aspect; 161, maxillary palp; 162, malar space and clypeus, lateral aspect; 163, 164, base of antenna. 157, 159: 1.0 × scale-line; 158, 160, 162: 1.5 ×; 161, 163, 164: 2.3 ×.

Metasoma.— First tergite smooth, without median carina or depressions posteriorly, in front of spiracles rather narrowed (fig. 158), first tergite slightly widened basally, flattened basally (trapezoid-shaped), and sternite not separated by sutures, notum posteriorly rather flat (fig. 158); laterally nearly smooth, with distinct dorso-lateral carina; laterope deep, oval, medium-sized and situated near middle of tergite and distinctly removed from spiracle (fig. 158).

Colour.— Dark brown or blackish; scapus, pedicellus, face largely, clypeus, palpi, tegulae, legs (but hind coxa dark brown, apex of hind tibia and all tarsi infusate), second and third metasomal segments more or less yellowish-brown; mesosoma (except propodeum) paler brown than head dorsally; veins C+SC+R, 1-M, 1-R1, SR1, r and 2-SR of fore wing brown; pterostigma and remainder of veins pale yellowish; wing membrane subhyaline.

Distribution.— Austria, Bulgaria, England, Germany, Ireland, Italy, Spain, and Sweden. Rarely collected except in Ireland and mainly in late April-May.

Variation.— Antennal segments of ♀ 25 (1), 26 (6) or 27 (2), and of ♂ 24 (3), 25 (8), 26 (8), or 27 (4); length of fore wing 2.4-3.0 mm, length of body 2.4-3.2 mm; length of ovipositor sheath 0.56-0.61 times fore wing, 1.7 times hind tibia and about as long as metasoma; head is darker than mesosoma; pronotum orange-brown; hind coxa darkened; scapus and pedicellus of ♂ dark brown.

Syntretus (S.) *pusio* (Marshall, 1898)
(figs 165-174)

Microctonus pusio Marshall, 1898: 217-218 [examined].

Syntretus pusio; Shenefelt, 1969: 132.

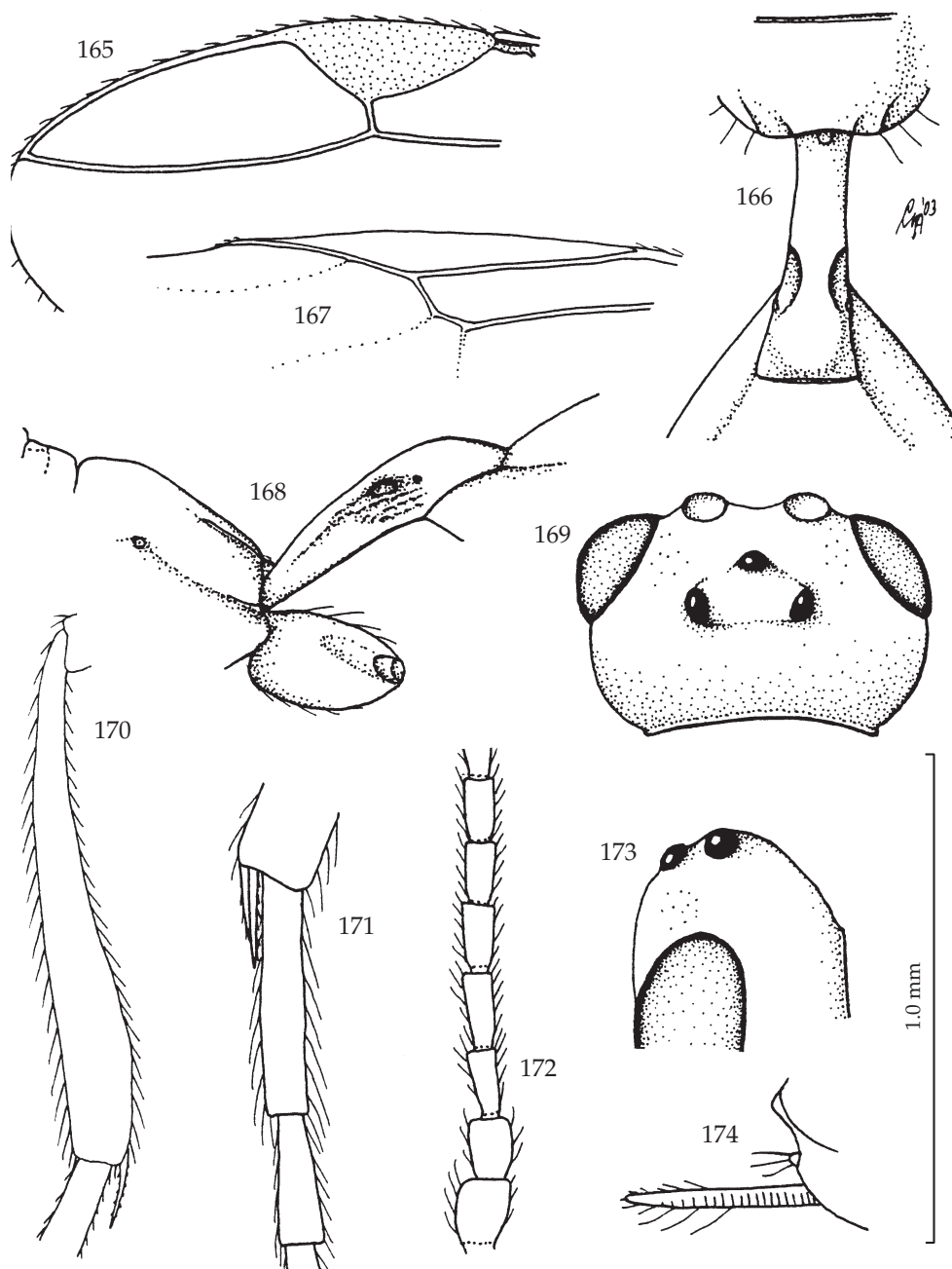
Type material.— Holotype (BMNH), ♀ "Type", "B.M. Type 3.c.59", B.M. Type *Chelonus* [sic!] *pusio* Marshall 1885 [sic!]", "Marshall coll. 1904-120", "[England, Cornwall] *pusio* Marsh.", "This is a *Euphorus*, det. J.A.J. Clark, 1961".

Additional material examined from: **Austria** (St. Lambrecht, 750-1000 m, Steiermark; id., but Mariahof, 950 m; id., but Neumarkt, 970-1040 m; id., but Buchau, 850 m; id., but Ennstaler A., 1400 m); **Bulgaria** (Semkovo); **England** (Abbots Moss, Cheshire, *Quercus/Betula/ Pinus* wood; Wychwood Forest, Oxon.; Chippenham Fen, Cambs., carr at reedbed edge); **Germany** (Mecklenburg, det. Papp as *S. parvicornis*); **Ireland** (Trawalua, Co. Sligo; Lucan, Co. Dublin; Buckrone, Co. Wicklow); and **Italy** (Malcesine, 500-1300 m, VR; Riva del Garda, Trento, 250 m and 800 m) (BMNH, DEI, NMS, NMW, RMNH, USNM, ZSM).

Holotype, ♀, length of fore wing 1.8 mm, length of body 1.8 mm.

Head.— Antenna with 19 segments, fourth and following antennal segments rather slender (fig. 172), scapus about as long as pedicellus (fig. 172), third antennal segment hardly longer than pedicellus and as long as fourth segment, third, fourth, sixth and penultimate segments 2.4, 2.4, 2.0, and 2.0 times as long as wide, respectively (fig. 172); maxillary palp not visible (covered by glue); frons smooth except some punctures laterally, glabrous except lateral setosity and without median groove or carina, rather flat in front of anterior ocellus; eye elliptical, not protruding anteriorly; eye in dorsal view as long as temple; temples parallel-sided behind eyes (fig. 169); [face, clypeus and malar space covered by glue].

Mesosoma.— Antescutal depression medium-sized; mesoscutum smooth (includ-



Figs 165-174, *Syntretus pusio* (Marshall), ♀, holotype. 165, pterostigma and marginal cell of fore wing; 166, propodeum and first metasomal tergite, dorsal aspect; 167, basal half of hind wing; 168, propodeum and first tergite, lateral aspect; 169, head, dorsal aspect; 170, hind tibia; 171, hind basitarsus; 172, base of antenna; 173, head, lateral aspect; 174, ovipositor sheath. 165: 1.0 × scale-line; 166, 168, 171-174: 1.5 ×; 167, 170: 1.8 ×.

ing notaulic area anteriorly), glabrous; notauli absent; scutellum rather convex, smooth, medio-posteriorly smooth; metapleuron smooth; propodeum anteriorly short, and without median carina or posterior rugae, posteriorly gradually declivous and without areola or costulae, only with pair of short carinae posteriorly (figs 166, 168).

Wings.— Fore wing: basal half of pterostigma rather robust, vein r emitted distinctly after middle (fig. 165); vein 1-R1 1.4 times as long as pterostigma, complete; vein SR1 slightly curved, ending near apex of fore wing and marginal cell moderately wide (fig. 165); basal and subbasal cells of fore wing nearly as densely setose as other cells. Hind wing: vein 1r-m short, about 0.3 times vein 2-SC+R (fig. 167).

Legs.— Length of femur, tibia and basitarsus of hind leg 3.5, 7.5 and 4.3 times as long as their maximum width, respectively; hind tibia and basitarsus robust (figs 170, 171); fore femur rather inflated, 3.5 times longer than wide.

Metasoma.— First tergite rather short (fig. 166), smooth, no median carina in front of spiracles and without small depressions posteriorly, in front of spiracles strongly narrowed (fig. 166), basal half of first tergite parallel-sided (fig. 166), cylindrical basally, and sternite not separated by sutures, notum posteriorly distinctly convex (fig. 168); laterally smooth, without dorso-lateral carina; laterope deep, large and situated behind middle of tergite and near spiracle (fig. 168); ovipositor sheath 0.15 times fore wing (fig. 174), 0.4 times hind tibia and 0.25 times as long as metasoma.

Colour.— Dark brown; four basal segments, head (except dorsally), pronotum postero-dorsally, metasoma ventrally and apically, legs (but hind coxa and telotarsi darkened), palpi, tegulae, veins (but C+SC+R dark brown) and pterostigma brownish-yellow; wing membrane subhyaline; upper valve of ovipositor mainly dark brown.

Distribution.— Austria, Bulgaria, England, Germany, Ireland, and Italy. Mainly collected in July-August.

Variation.— Antennal segments of ♀ 18 (3), 19 (10) or 20 (2), and of ♂ 15 (1), 16 (5), 17 (25) or 18 (2); relative length of vein 1r-m of hind wing is variable; base of first tergite is dark brown; fourth antennal segment is slender; fore femur robust; laterope of ♂ may be small; propodeum smooth or with weak carinae, especially in males; colour of body is very variable; it varies from nearly completely yellowish (including basal half of first tergite and body slightly infuscate dorsally) to largely dark brown (including hind leg); usually mesosoma, middle and hind coxae, third and fourth antennal segments and first tergite dark brown or blackish.

Syntretus (S.) *splendidus* (Marshall, 1887)
(figs 175-181)

Microctonus splendidus Marshall, 1887: 83-84 [examined].

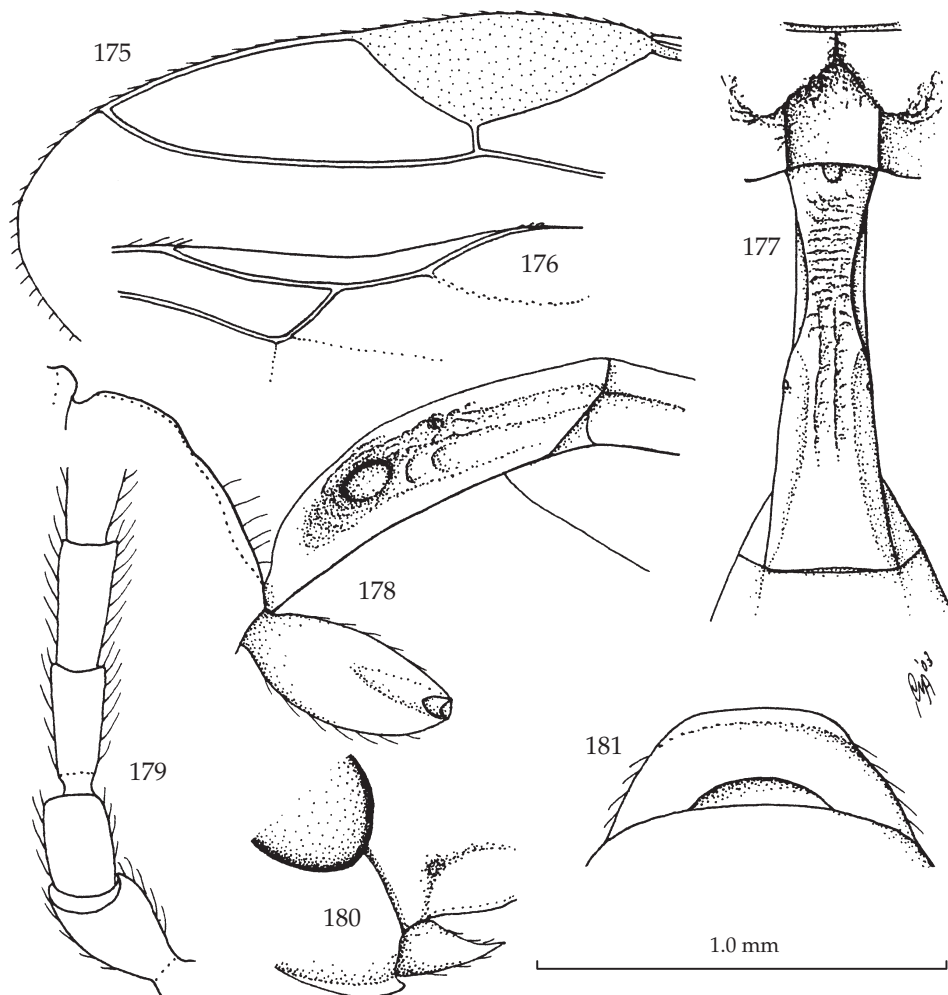
Syntretus splendidus; Shenefelt, 1969: 132.

Microctonus testaceus Capron (in Marshall), 1887: 85-86. **Syn. nov.**

Syntretus testaceus; Shenefelt, 1969: 132; not: Belokobylskij, 2000: 390.

Syntretus niger Tobias, 1976: 231, 1986: 246 (translation: 430); Belokobylskij, 2000: 390 (as synonym of *S. testaceus*) [examined]. **Syn. nov.**

Type material.— Lectotype of *S. splendidus* here designated, ♂ (BMNH), "Type", "B.M. Type Hym. 3.c.58", "B.M. Type Hym. *Microctonus splendidus* Marshall 1887", "*splendidus* Marsh.", "Marshall coll. 1904-120". Both male types were collected in a wood near Marshall's house at Nunton, Wilts. [England]; the type locality of *S. testaceus* is "Shiere" [= Shere], near Guildford, England. *S. testaceus* (Capron,



Figs 175-181, *Syntretus splendidus* (Marshall), ♂, lectotype. 175, pterostigma and marginal cell of fore wing; 176, basal half of hind wing; 177, propodeum and first metasomal tergite, dorsal aspect; 178, propodeum and first tergite, lateral aspect; 179, base of antenna; 180, malar space, lateral aspect; 181, pronotum, dorsal aspect. 175, 176: 1.0 × scale-line; 177, 178, 180: 1.5 ×; 179, 181: 2.3 ×.

1887) and *S. splendidus* are both validated in the same publication and since of *S. splendidus* a type specimen is available, *S. testaceus* is synonymised. Holotype of *S. niger*, ♂ (ZISP), "Dagest[an], Ser-gokala, les, 1.vi.[19]72, Kasparjan", "*Syntretus niger* Tobias sp. n. Holotypus". The synonymy of *S. niger* is obvious from the only illustration in the original description, indicating that vein 1-R1 of fore wing is comparatively short and the synonymy proved to be correct after examination of the holotype.

Additional material examined from: **Bulgaria** (Rhodopi Mts: Atoluka; v. Rogen); **Denmark** (Brabrand; Sonderburg); **England** (Windsor Forest, Berks.; Ashford Hill Meadow, Hants.; Inglefield Green, Surrey, ex ♀ *Bombus agrorum* (Fabricius)); **Ireland** (Cauhoo, Co. Cavan, det. Stelfox as *S. testaceus*; Manor Kilbride, Co. Wicklow; Tollymore Park, Co. Down; Ballinacourty Park, Co. Tipperary; Glenasmole, Co. Dublin; The Tansey Baily, Co. Dublin, det. Lyle as *S. testaceus*; Doonee Rock, Co. Sligo); **Italy** (Riva s.

Garda, 220 m; Valvestino, Cima Tombea, 1900 m, BS); **Netherlands** (Terlet, Gld.; Wassenaar, Zuydwijk, Z.-H.); and **Scotland** (Papadil Lochside, Rhum; Lephinmore, Argyll, on *Prunus cerasus*) (BMNH, NMS, RMNH, USNM, ZISP, ZSM, ZUMC).

Lectotype of *S. splendidus*, ♂, length of fore wing 2.6 mm, length of body 2.8 mm.

Head.—Antenna 0.7 times as long as body, with 19 segments, fourth and following antennal segments rather slender (fig. 179), scapus hardly longer than pedicellus (fig. 179), third antennal segment about as long as pedicellus and as long as fourth segment, third, fourth, sixth and penultimate segments 2.0, 2.0, 1.9, and 1.3 times as long as wide, respectively (fig. 179); length of maxillary palp 0.6 times height of head; face smooth, distinctly transverse and with medium-sized setosity; clypeus smooth, rather convex, dorsally below lower level of eyes, setae medium-sized; frons smooth, glabrous, without median carina anteriorly or a median groove, distinctly declivous in front of anterior ocellus; eye subcircular, somewhat protruding anteriorly; eye in dorsal view 0.8 times as long as temple; temples parallel-sided behind eyes, nearly parallel-sided; length of malar space 1.3 times basal width of mandible.

Mesosoma.—Antescutal depression rather narrow (fig. 181); mesoscutum smooth (but notaulic area anteriorly punctulate), glabrous, except anteriorly; notauli absent; scutellum rather flat, smooth, without medio-posterior impression; metapleuron smooth, but ventrally with some rugae; propodeum anteriorly moderately long, and with weak irregular median carina, posteriorly steeply declivous, with distinct but weak areola and costulae (figs 177, 178).

Wings.—Fore wing: basal half of pterostigma wide, vein r emitted moderately far after middle (fig. 175); vein 1-R1 0.9 times as long as pterostigma, complete; vein SR1 nearly straight, ending removed from apex of fore wing and marginal cell wide, subtriangular (fig. 175); basal and subbasal cells of fore wing somewhat less densely setose than other cells. Hind wing: vein 1r-m about 0.7 times as long as vein 2-SC+R (fig. 176); vein cu-a basally developed but mainly unsclerotised.

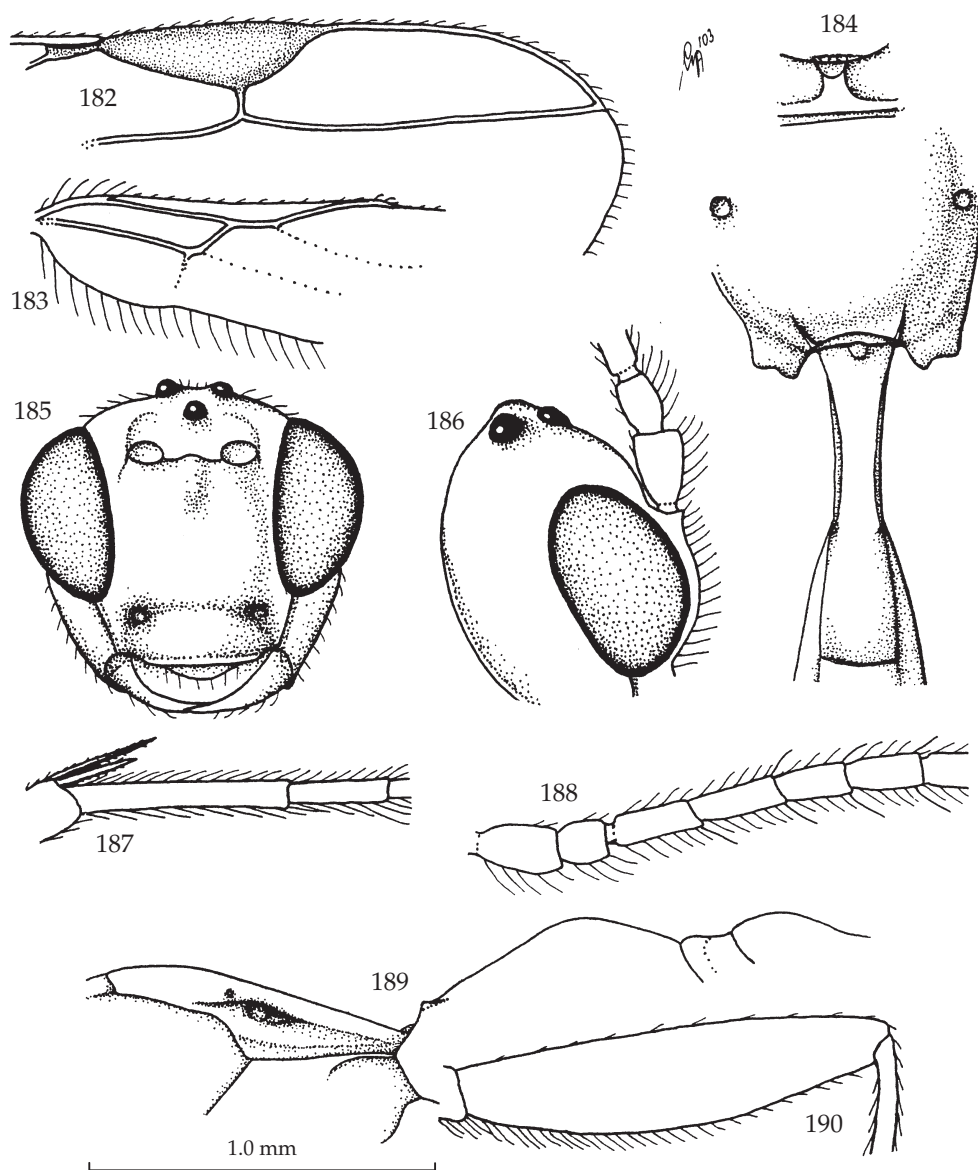
Legs.—Length of femur, tibia and basitarsus of hind leg 4.3, 9.0 and 7.5 times as long as their maximum width, respectively; hind basitarsus rather slender; fore femur rather inflated, about 4 times longer than wide; tarsal claws angularly bent and inner tooth similar to apical tooth.

Metasoma.—First tergite distinctly rugose, anteriorly mainly punctate medially and posteriorly smooth, with inconspicuous median ruga, no depressions posteriorly, in front of spiracles rather narrowed (fig. 177), first tergite slightly widened basally, flattened basally (trapezoid-shaped), and sternite separated by sutures, notum posteriorly rather flat (fig. 178); laterally robust and coarsely sculptured, with distinct dorso-lateral carina; laterope very deep, oval, large and situated in front of middle of tergite and distinctly removed from spiracle (fig. 178).

Colour.—Dark brown or blackish; scapus, face, clypeus, temple except dorsally, palpi, tegulae, legs (but hind coxa and all tarsi somewhat infusate), and pronotum dorsally more or less yellowish-brown; veins and pterostigma brown; wing membrane subhyaline.

Distribution.—Bulgaria, Daghestan, Denmark, England, Ireland, Italy, Netherlands and Scotland. Mainly collected in May-June.

Variation.—Antennal segments of ♀ 17 (2), 18 (4), or 19 (7), 20 (1) or 21 (1) and of ♂ 17 (1), 18 (5), 19 (3) or 20 (1); vein 1-R1 of fore wing 0.8-1.0 times as long as pterostigma;



Figs 182-190, *Syntretus stenochora* spec. nov., ♀, holotype. 182, pterostigma and marginal cell of fore wing; 183, basal half of hind wing; 184, propodeum and first metasomal tergite, dorsal aspect; 185, head, frontal aspect; 186, head, dorso-lateral aspect; 187, hind basitarsus; 188, base of antenna, 189, propodeum and first tergite, lateral aspect; 190, fore femur, lateral aspect. 182, 183: 1.0 × scale-line; 184-190: 1.8 ×.

laterope medium-sized to large and in front of middle of tergite, with sternite separated from tergite, third antennal segment hardly longer than pedicellus, body of ♀ largely yellowish, of ♂ largely dark brown; palpi more or less darkened; length of ovipositor sheath 0.25–0.28 times fore wing, 0.8 times hind tibia and about half as long as metasoma; upper valve of ovipositor yellowish.

Syntretus (S.) *stenochora* spec. nov.
(figs 182–190)

Type material.— Holotype, ♀ (RMNH), “Bulgaria, ex coll. Zaykov, RMNH Leiden 1991”, “Borovez, 23.vii.1982, [A.] Zaykov”. Paratypes (2 ♀♀): 1 ♀ (RMNH), “Bulgaria, ex coll. Zaykov, RMNH Leiden 1991”, “Semkovo, 8.viii.1985, [A.] Zaykov”; 1 ♀ (ZSM), “D [= Germany], BY, Hohenschwangau, 830–1050 m, 16.vii.1974, Haeselbarth”;

Holotype, ♀, length of fore wing 2.8 mm, length of body 2.5 mm.

Head.— Antenna with 24 segments, fourth and following antennal segments slender and densely bristly setose (fig. 188), scapus longer than pedicellus (fig. 188), third antennal segment distinctly longer than pedicellus and 1.2 times as long as fourth segment, third, fourth, sixth and penultimate segments 3.0, 2.3, 2.0, and 2.2 times as long as wide, respectively (fig. 188); length of maxillary palp 1.1 times height of head; face smooth, subquadrate (fig. 185) and with rather short setosity (fig. 186); clypeus smooth except for some punctures, distinctly convex, almost reaching lower level of eyes (fig. 185), setae medium-sized; frons smooth, glabrous except lateral setosity and some punctulation, without median carina anteriorly or median groove, rather declivous in front of anterior ocellus; eye elongate elliptical, not protruding forward (fig. 186); eye in dorsal view as long as temple; temples slightly narrowed behind eyes, nearly parallel-sided; length of malar space 0.9 times basal width of mandible.

Mesosoma.— Antescutal depression narrow; mesoscutum smooth (including notaulic area anteriorly), glabrous, except anteriorly; notauli absent; scutellum distinctly convex (fig. 189), smooth, without medio-posterior impression; metapleuron smooth; propodeum anteriorly medium-sized, and without median carina or rugae, posteriorly gradually declivous, without areola or costulae (figs 184, 189).

Wings.— Fore wing: basal half of pterostigma rather slender, vein r emitted distinctly after middle (fig. 182); vein 1-R1 1.4 times as long as pterostigma, complete; vein SR1 nearly straight, ending close to apex of fore wing; marginal cell comparatively narrow (fig. 182); basal and subbasal cells of fore wing nearly as densely setose as other cells. Hind wing: vein 1r-m rather long, nearly as long as vein 2-SC+R (fig. 183).

Legs.— Length of femur, tibia and basitarsus of hind leg 4.4, 10.4 and 7.7 times as long as their maximum width, respectively; hind basitarsus slender (fig. 187); fore femur rather compressed, 4.6 times longer than wide (fig. 190).

Metasoma.— First tergite smooth, without median carina or depressions posteriorly, in front of spiracles somewhat narrowed (fig. 184), basal half of first tergite slightly widened basally, flattened basally (trapezoid-shaped), and sternite separated by sutures, notum posteriorly rather convex (fig. 184); laterally nearly smooth, without distinct dorso-lateral carina; laterope deep, elongate elliptical and situated near middle of tergite and partly below spiracle (fig. 189); ovipositor sheath 0.15 times fore wing,

about 0.5 times hind tibia and 0.3 times as long as metasoma.

Colour.— Yellowish-brown; antenna (except for three basal segments), stemmaticum, frons dorsally, vertex dorsally, mesosoma dorsally (except patch in front of scutellum, pronotum and small patch antero-laterally on mesoscutum), metasoma dorsally (except second metasomal tergite), tarsi and ovipositor sheath dark brown or blackish; apical third of hind tibia infuscate; veins C+SC+R, 1-R1, SR1, r and 2-SR of fore wing and pterostigma laterally brown; palpi, remainder of veins and tegulae pale yellowish; wing membrane subhyaline; upper valve of ovipositor not exposed but of paratype dark brown.

Distribution.— Bulgaria, and southern Germany. Collected in July–August.

Variation.— Antennal segments of ♀ 24 (2), or 25 (1); length of vein 1-R1 of fore wing 1.4–1.5 times pterostigma; length of fore wing 2.7–2.9 mm, length of body 2.4–2.6 mm; hind basitarsus 7.4–7.7 times as long as wide; colour of paratypes very similar to that of holotype. Male unknown.

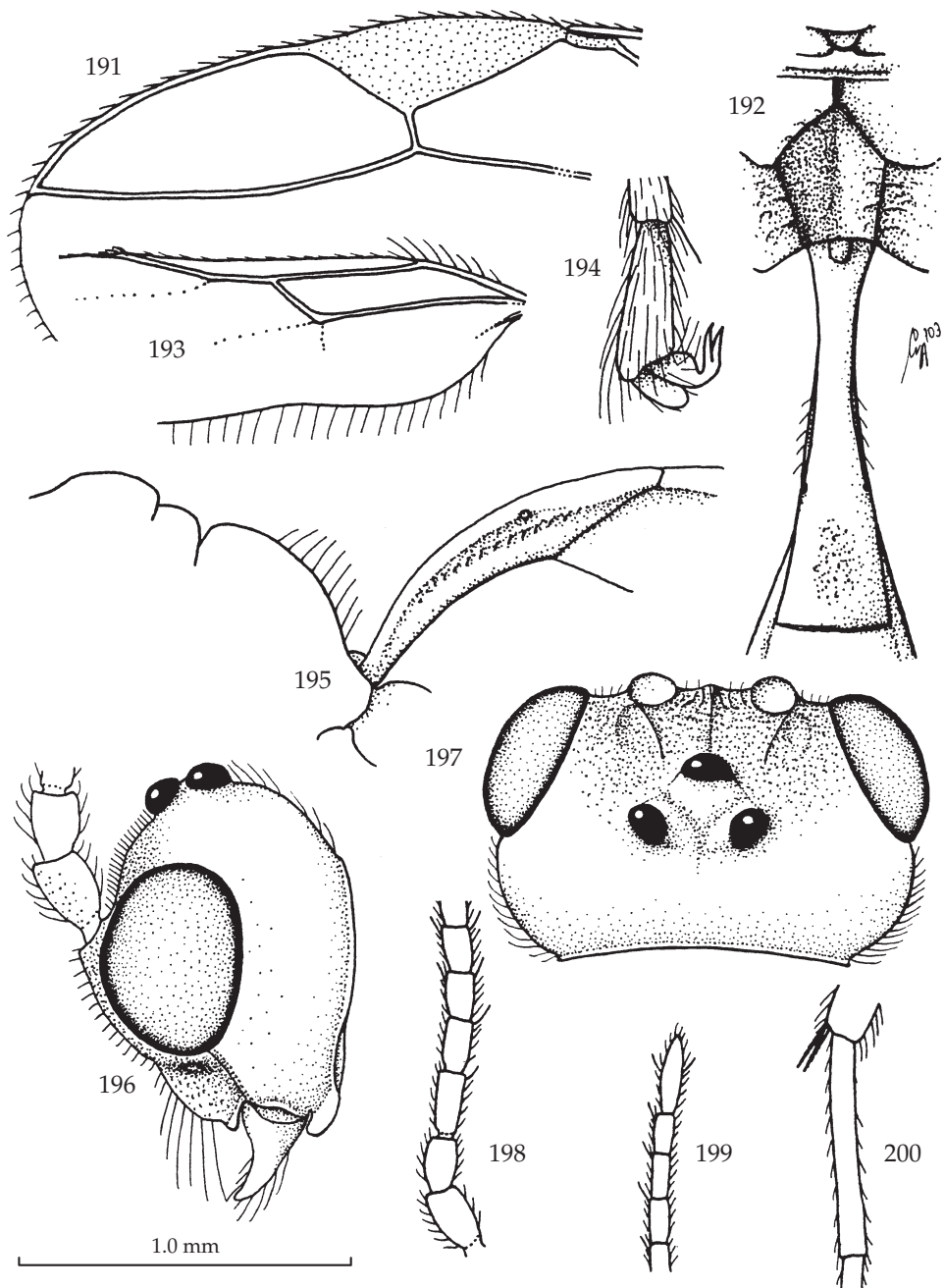
Syntretus (S.) *taegeri* spec. nov.
(figs 191–200)

Type material.— Holotype, ♀ (DEI), “DDR [= **Germany**], Ilmenau NSG Vessertal, 1–3.viii.1986, 645, A. Taeger”. Paratypes (3 ♀♀ + 4 ♂♂): 1 ♂ (DEI), “[Germany], Umg. Krefeld, Coll. Mink”; 2 ♂♂ (ZSM, RMNH), “[Germany], Wiershausen, C, 18.vi.1966, Haeselbarth”; 1 ♀ (ZSM), “[**Austria**], Walchsee, Tirol, 800 m, 4.vi.1968, Haeselbarth”; 1 ♀ (NMS), “[**England**], Abbots Moss, Cheshire, SJ 5868, Malaise Trap 2, *Quercus/Betula/Pinus*, 27.vi–23.vii.[19]86, R.R. Askew, NMSZ 1988.002”; 1 ♂ (NMS), “[England], Wychwood Forest, Oxon, SP 342167, Mal. Tr., 17.vii–14.viii.[19]90, NMSZ 1993.074”; 1 ♀ (RMNH), id., but 16.vi–17.vii.1990. Excluded from type series: 1 ♀ (NMW), “Austria, Stmk. (55), Gesäuse Johnsbachbrücke”, “650 m, windstill sonnig, 8.vii.1970, [M.] Fischer”.

Holotype, ♀, length of fore wing 3.2 mm, length of body 3.2 mm.

Head.— Antenna with 23 segments, fourth and following antennal segments rather robust (fig. 198), scapus slightly longer than pedicellus (figs 198, 199), third antennal segment distinctly longer than pedicellus and 1.3 times as long as fourth segment, third, fourth, sixth and penultimate segments 2.4, 1.8, 1.6 and 1.6 times as long as wide, respectively (figs 198, 199); length of maxillary palp 1.2 times height of head; face with weak medio-dorsal tubercle, face distinctly transverse, densely finely rugose (but medio-ventrally smooth) and with short setosity (fig. 196); clypeus coarsely and densely punctate, distinctly convex, reaching lower level of eyes (fig. 196), its setae very long; frons rugose laterally, completely densely setose and punctulate, and with distinct median groove (fig. 197), distinctly convex in front of anterior ocellus; ocelli medium-sized; eye not protruding anteriorly (fig. 196); eye in dorsal view 1.3 times as long as temple, head rather transverse in dorsal view and with indistinct median groove behind stemmaticum; temples parallel-sided behind eyes; length of malar space 0.9 times basal width of mandible; vertex in lateral view moderately protruding, 0.3 times height of eye above upper level of eyes (fig. 196); occipital flange medium-sized (fig. 196).

Mesosoma.— Antescutal depression narrow, deep; pronotum with some coarse crenulae anteriorly and medially; mesoscutum robust, densely setose and punctulate except laterally; notauli shallowly impressed; scutellum rather flat (fig. 195), smooth,



Figs 191-200, *Syntretus taegeri* spec. nov., ♀, holotype. 191, pterostigma and marginal cell of fore wing; 192, propodeum and first metasomal tergite, dorsal aspect; 193, basal half of hind wing; 194, outer fore claw; 195, propodeum and first tergite, lateral aspect; 196, head, lateral aspect; 197, head, dorsal aspect; 198, base of antenna; 199, apex of antenna; 200, hind basitarsus. 191, 193: 1.0 × scale-line; 192, 195, 198-200: 1.4 ×; 194: 3.3 ×; 196, 197: 1.8 ×.

without medio-posterior impression; metapleuron smooth but coarsely rugose ventrally; propodeum anteriorly rather short and with coarse medium-sized median carina, posteriorly steep and with coarse areola, mainly smooth and with distinct costulae (figs 192, 195).

Wings.— Fore wing: basal half of pterostigma rather robust, vein r emitted distinctly after middle (fig. 191); vein 1-R1 1.2 times as long as pterostigma, complete; vein SR1 weakly curved, ending close to apex of fore wing; marginal cell moderately wide (fig. 191); basal and subbasal cells of fore wing about as densely setose as other cells. Hind wing: vein 1r-m about as long as vein 2-SC+R (fig. 193).

Legs.— Length of femur, tibia and basitarsus of hind leg 5.1, 11.2 and 7.0 times as long as their maximum width, respectively; hind basitarsus slender (fig. 200); fore femur rather slender and depressed, 4.7 times longer than wide.

Metasoma.— First tergite largely smooth (except for some microsculpture medially), without median carina medially, in front of spiracles gradually narrowed, slender (fig. 192), slightly widened basally, trapezoid-shaped and depressed basally, sternite not separated by sutures, notum flattened posteriorly (fig. 192); laterally basal third of tergite smooth, remainder finely crenulate, without dorso-lateral carina; laterope absent (fig. 195); ovipositor sheath 0.14 times fore wing, 0.5 times hind tibia and 0.3 times as long as metasoma; apical 0.5 of ovipositor sheath somewhat widened, sheath setose.

Colour.— Dark brown, including antenna (but three basal segments brown); temple, face medio-ventrally, clypeus, tegulae, legs (but hind coxa largely dark brown and telotarsi infuscate), pronotum postero-dorsally narrowly more or less yellowish-brown; first tergite and ovipositor sheath black; upper valve of ovipositor yellowish; veins C+SC+R, 1-R1, 2-SR and r of fore wing brown, pterostigma brown, hardly darkened laterally and remainder of veins yellowish; wing membrane subhyaline.

Distribution.— Austria, England, and Germany. Collected in June–August.

Variation.— Length of fore wing 2.5–3.2 mm, length of body 2.7–3.2 mm; antennal segments of ♀ 23 (1), 24 (2), or 25 (1), and of ♂ 23 (2) or 25 (1); length of ovipositor sheath 0.13–0.14 times fore wing; head and antenna basally often completely dark brown; pterostigma pale brown to brown; all coxae may be infuscate; length of vein 1-R1 1.1–1.2 times length of pterostigma.

Notes.— It is a great pleasure to name this species after the collector of the holotype, the hymenopterist Dr Andreas Taeger (Eberswalde) for his important contribution to our knowledge of Braconidae and Symphyta.

The specimen from Austria is excluded because of its bad condition and its aberrant colour (mainly yellowish-brown) and features: the clypeus is largely smooth, the vertex has a distinct median groove, the antennal segments are more slender and the pterostigma is more slender basally.

The new species shares with the East Palaearctic *S. setosus* Chen & van Achterberg, 1997, the evenly setose frons and the rather transverse head, but the frons has a distinct median groove posteriorly, the body is much darker, the pterostigma wider subbasally, vein r of the fore wing is less apically emitted from the pterostigma, and the face is more transverse and dorsally rugose (in *S. setosus* only punctate). According to Belokobylskij (2000) *S. setosus* Chen & van Achterberg is a synonym of *S. hirtus* Belokobylskij, 1996, but *S. hirtus* has the vertex longer and with a deep median groove, vein SR1 of the fore wing straight, vein 1r-m of the hind wing shorter, the head less transverse and the first tergite less slender.

Syntretus (S.) *xanthocephalus* (Marshall, 1887)
(figs 201-212)

Microctonus tempestivus Curtis, 1837: 118; Shenefelt, 1969: 114 (nomen nudum).

Microctonus xanthocephalus Marshall, 1887: 84-85. [holotype probably lost, not in BMNH or TMA].

Syntretus xanthocephalus; Shenefelt, 1969: 133; Tobias, 1986: 247 (translation: 431).

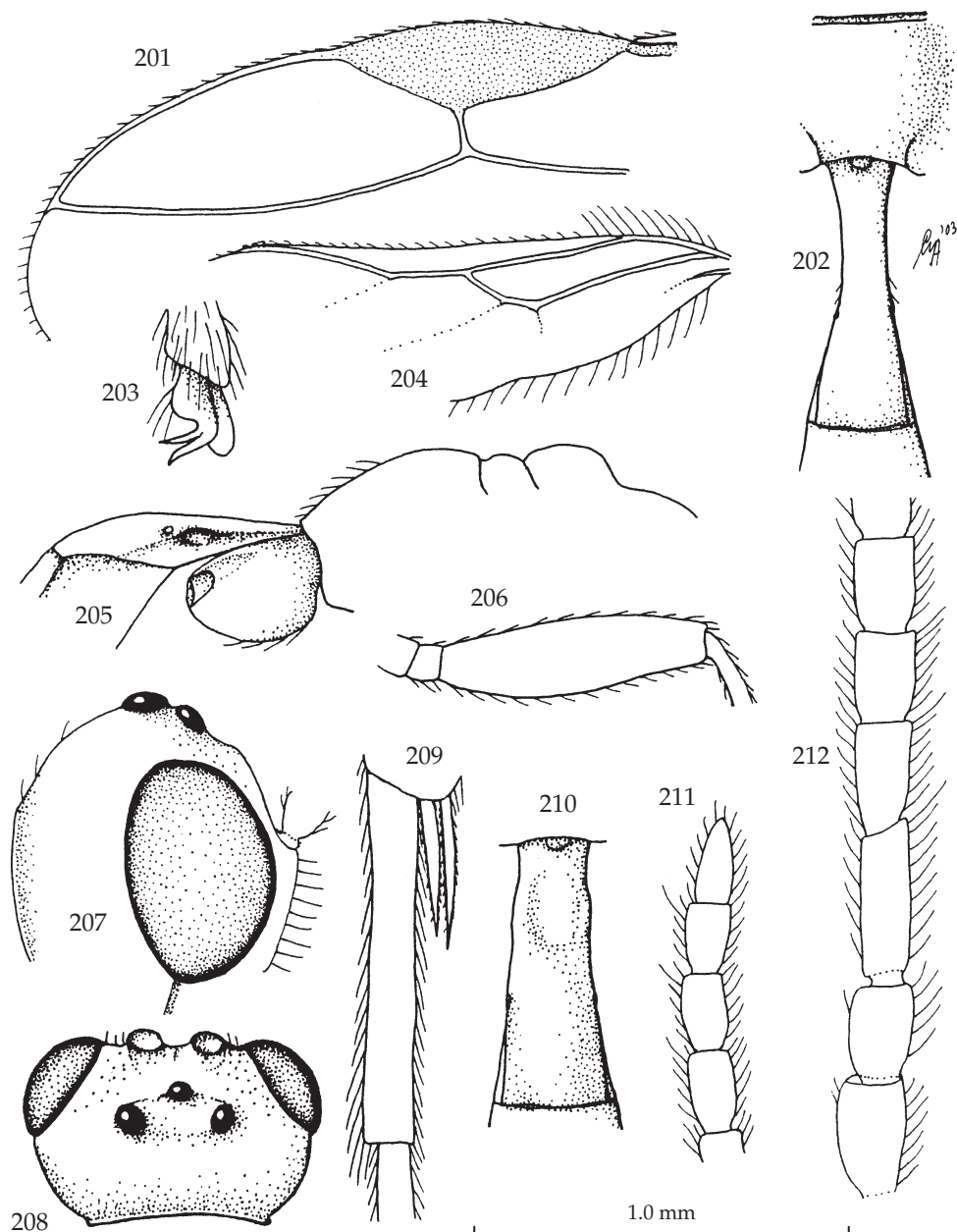
Syntretus lyctaea Cole, 1959: 18-21, figs 1-2; Shenefelt, 1969: 131; Tobias, 1986: 246 (as *S. lyctaeae*; translation: 431); van Achterberg & O'Toole, 1993: 25. **Syn. nov.**

Type material.— Holotype of *S. lyctaea*, ♀ (OUM), "Holotype, O.U.M.", "Lateral aspect Em. 22.ix.[19]57 ex adult ♀ *Phaeogenes invisor* beaten from oak, col. 18.ix.1957, [England], Berks., Wytham, L.R. Cole, x.1959", "ex i.4", "Hind tarsus [prepared separately]", "Holotype *Syntretus lyctaea* Cole, 1959, E.M.M. 95: 18-21", "Type Hyme 0025 1/5, *Syntretus lyctaea* Cole, 1959. Holotype ♀, Hope Ent. Coll. OUMNH"; paratypes (all from type locality): 1 ♀ (OUM), dame data, without spreaded wings; 2 ♀ ♀ (OUM), emerged from soil under oak, 13.vii.1950 and 30.vii.1951, G.C. Varley, 1950 and 1951; 1 ♀ (OUM) swept under oak, 13.viii.1958. The holotype of *S. xanthocephalus* (a ♀ from England, "Shiere" [= Shere], near Guildford and collected by Capron) has 28 antennal segments and the body (except head) "very black" according to the original description, which does not mention the yellowish sides and ventral parts of the mesosoma (because of the traditional way of preparation on a rectangular card?), but mentions a dark patch on the hind coxae. A ♀ from Austria (Admont) has indeed this patch on the hind coxae and has a rather slender basal half of the first tergite (about as figured for *S. lyctaea*). *S. lyctaea* has a somewhat more slender basal half of the first tergite than normal, which is normal for somewhat smaller specimens of this species; the first tergite as figured falls within the variation observed; *S. lyctaea* has a rather robust marginal cell (Cole, 1959; fig. 201).

Additional material examined from: **Austria** (Piesting; Imst, Kiefernwald, 1000 m; Gstatterboden; Gesäuse Johnsbachbrücke, 650 m; Steiermark: Mariahof, Furtner Teich, 880 m; Neumarkt, 970-1040 m; Eggerskogel, 6 km SSE Admont; Admont Klosterhoge, 900-1200 m); **Bulgaria** (Aleko, Mt Vitosha; Bistrice, Mt Rila; Velinograd, det. Zaykov as *S. lyctaea*; k. Erquprim, Rhodopi Mts.; k. R partizani, id.; Zdravec, id.; Pamporovo, id.; Studenec, id.); **Denmark** (Madok., det. Wüstnei as *S. testaceus*); **England** (Wytham Wood, Berks., type locality of *S. lyctaea*; Abbots Moss, Cheshire, *Quercus/Betula/Pinus* wood; Wychwood Forest, Oxon.; Chippenham Fen, Cambs., carr at reedbed edge; Richmond Park, Surrey, from *Quercus*; Staffs Coomb Valley; Windsor Forest, Berks.; Barrow Farm Fen, Oxon.; Saverlake Forest, Wilts.; Torquay, Devon); **Germany** (Bechtalerwald, 171 m); **Ireland** (near Arklow, Co. Wicklow, in motor; Glen of Downs, Co. Wicklow; Athdown, Co. Wicklow); **Italy** (Idrosee, Brescia, 400 m; Tremalzo, Judik., Voralpen, 1300 m); **Netherlands** (Wassenaar, Zuydwijk, Z.-H.; Heihof, near Schaesberg, L.); **Romania** (Sinaia, 1300-1400 m); **Scotland** (Beinn Eighe NNR, W. Ross, native pine; Rassal, W. Ross; Shieldaig, W. Ross, native pinewood; Amat, Easter Ross, native pinewood; Culbin Forest, Nairn, pine; Glen Tanar, Abds., native pinewood; Rannoch, Perth., native pinewood; Wood Gareloch, DN; Loch Garten, Inv.); and **Sweden** (Örebro Län; Ringsjö (det. Thomson as *S. idalius*) (BMNH, NMS, NMW, RMNH, USNM, ZIL, ZMUC, ZSM).

Holotype of *S. lyctaea*, ♀, length of fore wing 2.8 mm, length of body 3.2 mm.

Head.— Antenna with 27 segments, fourth and following antennal segments rather robust and densely setose (figs 211, 212), scapus longer than pedicellus (fig. 212), third antennal segment distinctly longer than pedicellus and 1.3 times as long as fourth segment, third, fourth, sixth and penultimate segments 2.8, 2.0, 1.4, and 1.5 times as long as wide, respectively (figs 211, 212); maxillary palp missing, but in ♀ paratype length of maxillary palp 1.2 times height of head; face smooth except for some punctures, rather transverse and with short setosity; clypeus mainly smooth except for some punctures, distinctly convex, not reaching lower level of eyes, setae medium-sized; frons smooth, glabrous except lateral setosity and without median



Figs 201-212, *Syntretus xanthocephalus* (Marshall), ♀, holotype of *S. lyctaea* Cole, but 203, 207-212 of paratype. 201, pterostigma and marginal cell of fore wing; 202, propodeum and first metasomal tergite, dorsal aspect; 203, outer hind claw; 204, basal half of hind wing; 205, propodeum and first tergite, lateral aspect; 206, fore femur, lateral aspect; 207, head, dorso-lateral aspect; 208, head, dorsal aspect; 209, hind basitarsus; 210, first tergite, dorsal aspect; 211, apex of antenna; 212, base of antenna. 201, 204: 1.0 × scale-line; 202, 205, 206: 1.1 ×; 203: 2.6 ×; 207: 1.5 ×; 208, 210: 1.2 ×; 209, 211, 212: 2.3 ×.

groove or median carina anteriorly, rather convex in front of anterior ocellus (fig. 207); eye elliptical, not protruding forward (fig. 207); eye in dorsal view 1.2 times as long as temple; temples nearly parallel-sided behind eyes (fig. 208); length of malar space equal to basal width of mandible.

Mesosoma.— Antescutal depression narrow; mesoscutum smooth (including notaulic area anteriorly), glabrous except for some setae antero-medially; notauli absent; scutellum distinctly convex (fig. 205), smooth; metapleuron smooth except for a few punctures; propodeum anteriorly rather long, and without median carina, posteriorly gradually sloping and without areola or costulae (figs 202, 205).

Wings.— Fore wing: basal half of pterostigma rather slender, vein r emitted distinctly after middle (fig. 201); vein 1-R1 1.1 times as long as pterostigma, complete; vein SR1 rather curved, ending close to apex of fore wing and marginal cell comparatively wide (fig. 201); basal and subbasal cells of fore wing nearly as densely setose as other cells. Hind wing: vein 1r-m 0.6 times as long as vein 2-SC+R (fig. 204).

Legs.— Length of femur, tibia and basitarsus of hind leg 3.8, 9.1 and 6.5 times as long as their maximum width, respectively; hind basitarsus slender (fig. 209); fore and middle femora robust, rather inflated, 3.7 times longer than wide (fig. 206).

Metasoma.— First tergite smooth, without median carina in front of spiracles and no depressions posteriorly, in front of spiracles gradually narrowed and flattened (fig. 202, but in paratype parallel-sided: fig. 210), first tergite hardly widened basally, flattened basally (trapezoid-shaped), and sternite separated by sutures, notum posteriorly moderately convex (fig. 202); laterally largely smooth, with indistinct dorso-lateral carina; laterope rather deep, long elliptical and situated near middle of tergite and near spiracle (fig. 205); ovipositor sheath 0.13 times fore wing, 0.4 times hind tibia and 0.2 times as long as metasoma; ovipositor straight (not exerted; but in paratypes with fully exerted ovipositor rather curved).

Colour.— Yellowish-brown; antenna (except for three basal segments), stemmaticum, frons medio-posteriorly, mesoscutal lobes (except posteriorly), scutellum, metanotum, propodeum, metasoma (except for second tergite latero-posteriorly), ovipositor sheath and upper valve of ovipositor largely dark brown; middle and hind tarsi infuscate; veins and pterostigma brown; face, clypeus, palpi and tegulae pale yellowish; wing membrane subhyaline.

Distribution.— Austria, Bulgaria, Denmark, England, Germany, Ireland, Italy, Netherlands, Romania, Scotland, and Sweden. Mainly collected in June-early August and especially in pinewood. However, *S. lyctaea* has been reared as endoparasitoid of an adult ichneumonid (*Dirophanes invisor* (Thunberg, 1822); Ichneumoninae Latreille, 1802: Alomyini Foerster, 1869) from *Tortrix viridana* Linnaeus, 1758, on *Quercus* (Cole, 1959), but the ichneumonid host is also known to parasitise hosts on pine trees (Yu & Horstmann, 1997). Tobias (1986) lists under *S. lyctaea* also Lithuania and Central Ural.

Variation.— Antennal segments of ♀ 19 (4), 20 (13), 21 (6), 22 (10), 23 (8), 24 (3), 25 (5), 26 (6) or 27 (4), and of ♂ 19 (2), 20 (1), 21 (7), or 22 (13); third antennal segment 1.2–1.3 times as long as fourth segment; propodeum of ♀ largely smooth, at most medially with some superficial rugulosity, evenly convex, in ♂ more or less rugose or areolate; laterope usually very large, but sometimes long and narrow or even inconspicuous because of flattened tergite; length of ovipositor sheath 0.13–0.17 times as long as fore wing and nearly half as long as hind tibia, exerted ovipositor may be more or less

curved ventrad; tarsal claws with small basal lobe; scutellum more or less narrowly depressed medio-posteriorly; occipital carina meeting hypostomal carina except in one male from Sweden; face largely smooth (with some sublateral punctures) or transversely striate; base of hind tibia yellowish or narrowly infusate; larger specimens often have basal half of first tergite strongly flattened and widened (resulting in a parallel-sided tergite: cf. fig. 210); first tergite in lateral view basally with a weak or distinct dorso-lateral carina and finely crenulate to largely smooth; hind basitarsus usually more than 7 times longer than wide, especially in specimens having length of fore wing more than 2.4 mm; shape of marginal cell of fore wing rather variable, usually rather slender but especially in small specimens more robust; first tergite may be distinctly narrowed in front of spiracle, especially in specimens with length of fore wing about 2 mm (cf. fig. 202); length of malar space 0.8-1.2 times as long as fourth segment; scutellum with minute medio-posterior depression more or less developed; pterostigma may be rather infusate laterally.

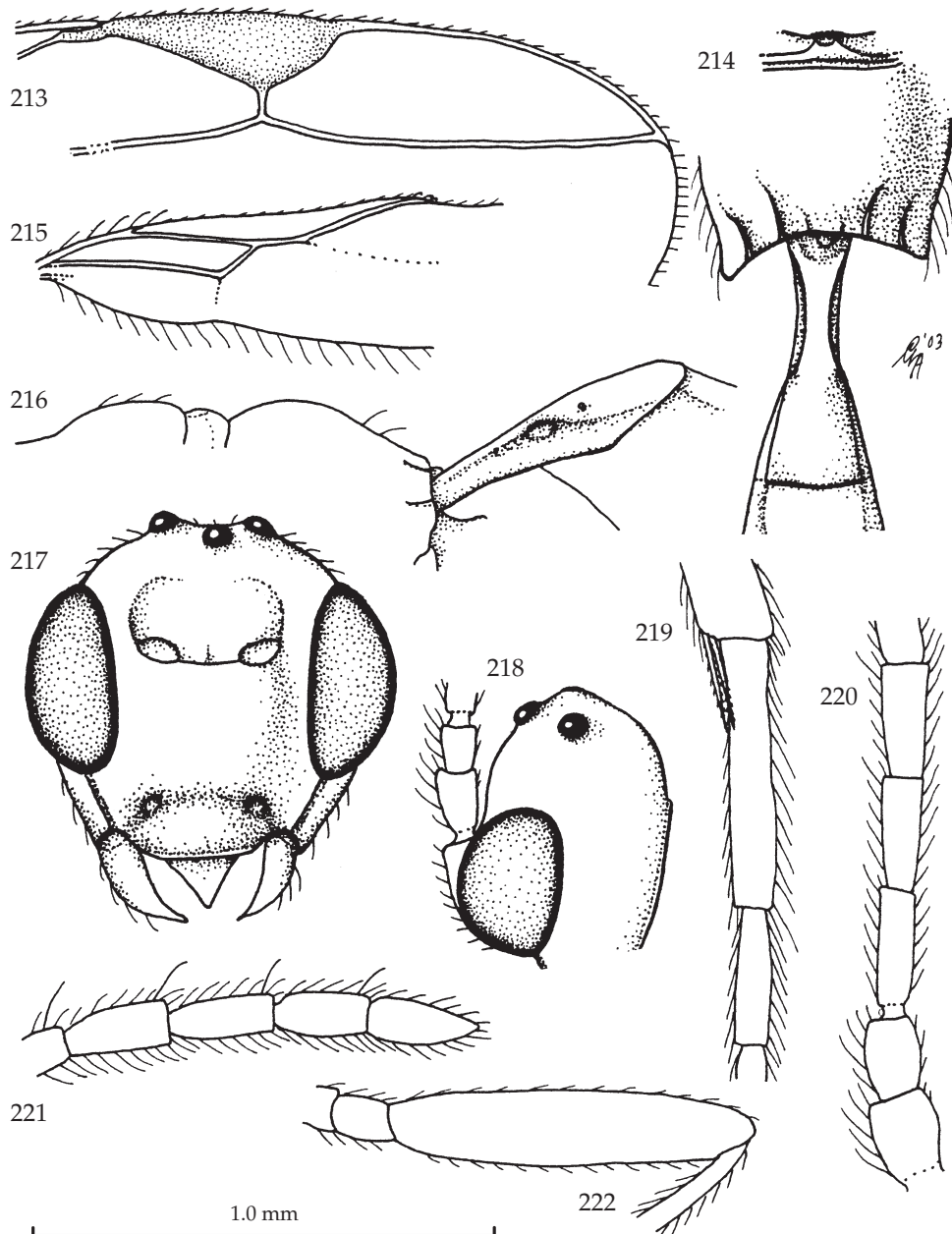
Notes.— The counts of the antennal segments of the ♀ (not ♂!) suggest a bimodality. This may be an indication that two species are involved, but we were unable to split the species on morphological grounds and the size differences may be caused just by parasitizing different sized hosts.

Syntretus xanthocephalus (Marshall) is very similar to the East Palaearctic *S. falcifer* (Tobias, 1965) **comb. nov.** described from Kirgizia. *S. falcifer* (Tobias) differs mainly by having the inner tooth of the tarsal claws wider than the apical tooth (fig. 224) and a more flattened propodeum (fig. 232). The comparatively robust and inflated fore and middle femora (figs 228, 229) also occur in *S. xanthocephalus*. According to Belokobyl'skij (2000) it occurs also in Far East Russia and we have seen a female from Japan (Maetô collection: "Honshu, Kiso Range, Mt. Kiso-komagatoke, 1800 m, 9.viii.1968, T. Saigusa"). It has 25 antennal segments and the wing membrane somewhat infusate.

Syntretus (*S.*) *zuijleni* spec. nov.
(figs 213-222)

Syntretus spec. nov.; Papp et al., 1996: 124.

Type material.— Holotype, ♀ (RMNH), "Netherlands: N.Br., Udenhout "De Brand", 21-28.vii.1980, UTM FT 476225, Mal. trap, Ins[ecten] W[erk] G[roep] KNNV-Tilburg". Paratypes (38 ♀♀ + 7 ♂♂): 1 ♀ (RMNH), id., but 28.vii-4.viii.1990; 1 ♀ (RMNH), id., but 18-25.viii.1990; 1 ♂ (NMW), "Austria, Stmk. (48), Frauenberg a.d. Enns, Osthang/ 750 m, überwiegend sonnig, 10.vii.1970, [M.] Fischer"; 1 ♀ (NMW), "Austria, Stmk. (46), Ennstaler A., Huber Alm-Mödlinger Hütte/ 1400 m, sonnig windstill, 28.vii.1970, [M.] Fischer"; 1 ♀ (NMW), "Austria, Bgld., Jabling, 28.vii.[19]60, [M.] Fischer"; 1 ♀ (RMNH), "Bulgaria, ex coll. Zaykov, RMNH Leiden 1991", "Thcigov tsharu, Rhodopi, 9.viii.1979, A. Zaykov"; 1 ♂ (RMNH), "Bulgaria, ex coll. Zaykov, RMNH Leiden 1991", "Semkovo, 8.viii.1985, [A.] Zaykov"; 1 ♀ (RMNH), "Bulgaria, ex coll. Zaykov, RMNH Leiden 1991", "Borovez, 23.vii.1982, [A.] Zaykov"; 1 ♀ (RMNH), "Bulgaria, ex coll. Zaykov, RMNH Leiden 1994", "Zdravec, R[h]odopi, 17.vii.[19]94, [A.] Zaykov"; 1 ♂ (RMNH), "Bulgaria, ex coll. Zaykov, RMNH Leiden 1991", "Orechez, R[h]odopi, 10.vii.1968, A. Germanov"; 1 ♀ (Århus museum), "Dania, Østjylland, Ammitsbøl skov, 24.vii.1984, T. Munk; 2 ♀♀ (NMS, RMNH), "[England], Abbots Moss, Cheshire, SJ 5868, Malaise Trap 1 or 2, *Quercus/Betula/Pinus*, 25.viii-21.ix.[19]86, R.R. Askew, NMSZ 1988.002"; 5 ♀♀ (NMS, RMNH), id., but 27.vi-23.vii.1986; 1 ♀ (NMS), id., but 23.vii-5.viii.1986; 2 ♀♀ (NMS, RMNH), id., 5-25.viii.1986; 1 ♀ (NMS), id., 21.ix-12.x.1986; 2 ♀♀ (NMS, RMNH), id., but 12-27.vi.1986; 1 ♀ (NMS), "[England], Chippenham Fen, Cambs., TL 650693, Malaise trap, carr at reedbed edge B, 25.vi-5.vii.[19]85, J. Field,



Figs 213-222, *Syntretus zuijleni* spec. nov., ♀, holotype. 213, pterostigma and marginal cell of fore wing; 214, propodeum and first metasomal tergite, dorsal aspect; 215, basal half of hind wing; 216, propodeum and first tergite, lateral aspect; 217, head, lateral aspect; 218, head, dorso-lateral aspect; 219, hind basitarsus; 220, base of antenna; 221, apex of antenna; 222, fore femur, lateral aspect. 213, 215: 1.0 × scale-line; 214, 216, 218, 222: 1.5 ×; 217: 1.6 ×; 219-221: 2.3 ×.

NMSNH 1986.021"; 1 ♀ (RMNH), id., but 22.viii-5.ix.1985; 1 ♀ (NMS), "[England], Richmond Park, Surrey, *Quercus*, Fog 3/6, 30.v.1984, N.E. Stork, RSMNH 1988.003, tree 1"; 1 ♀ (NMS), "[England], Moccas Park NNR, Herefords., FI [= flight interception] trap, mature decid. wood, 1-5.vii.[19]92, J. Cooter, NMSZ 1992.142"; 3 ♀♀ (USNM; RMNH), "[England], Yellowham Wood, DT, 27.v.[19]50, A.W. S.", "A.W. Stelfox Collection, 1966" (1 ♀ identified by Stelfox as *S. idalius*); 1 ♂ (ZSM), "[Germany], Taufkirchen bei München, B, 26.vi.1968, Haeselbarth"; 2 ♀♀ (RMNH), "Ireland: Co. Wicklow, Glen of the Downes, 4.x.1986, C. van Achterberg, RMNH'86"; 1 ♀ (USNM), "Ireland], Donard Lodge, Co. Down, 25.vii.[19]65, A.W. S[telfox]", "sp. nov., ♀, A.W.S.", "A.W. Stelfox Collection, 1966"; 1 ♀ (USNM), "Ireland], Tollymore Park, Co. DO, 14.vii.[19]61, A.W. S[telfox]", "A.W. Stelfox Collection, 1966"; 1 ♀ (USNM), id., but 19.vi.1961; 1 ♀ (RMNH), id., but 12.vi.1961; 1 ♂ (USNM), "Ireland], Ballinelea, Co. Wicklow, (1) 21.vii.[19]40, A.W. S[telfox]", "A.W. Stelfox Collection, 1966"; 1 ♀ (ZSM), "[Italy], Judik., Voralpen., Tremalzo, 1300 m, 9.vii.[19]66, Hbth."; 1 ♀ (ZSM), "[Italy], TO, Giaglione, 630 m, 18.vii-16.viii.1987, G. Bassi"; 1 ♀ (NMS), "[Scotland], Inv., Loch Garten, Malaise trap, vii.1981, J.A. Owen, RSMNH 1981.152"; 1 ♀ (NMS), "[Scotland], Beinn Eighe NNR, W. Ross, NH 0064, Mal. tr., native pine, vii.[19]88, I. MacGowan, NMSZ 1992.143"; 1 ♀ (NMS), "[Scotland], Amat, Easter Ross, NH 4689, Mal. tr., native pinewood, viii.[19]89, I. MacGowan, NMSZ 1992.144"; 1 ♀ (USNM), "[Scotland], The Birks, Alberfeldy, MP, (2) 31.vi.[19]63, A.W. S[telfox]", "A.W. Stelfox Collection, 1966" (labelled as new species with an unpublished name by Stelfox); 1 ♂ (USNM), "[Scotland], Lake Alsh, RW, 6.vii.[19]39, A.W. S[telfox]", "A.W. Stelfox Collection, 1966"; 1 ♂ (RMNH), "Sweden, Hallandsl., Särö-Hamra, swept, 26.vi.1977, H.J. Vlug".

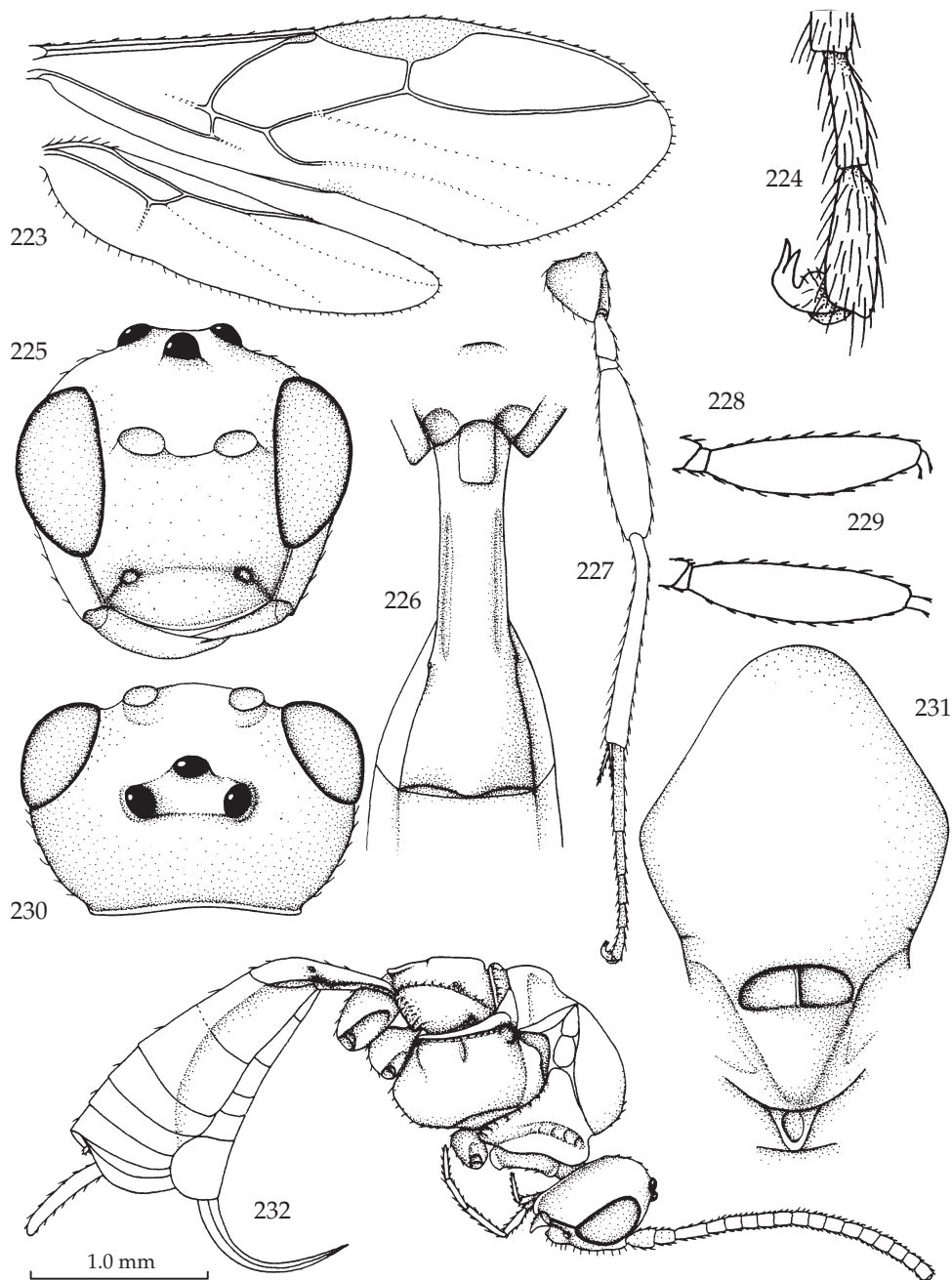
Holotype, ♀, length of fore wing 2.2 mm, length of body 1.8 mm.

Head.— Antenna with 20 segments, fourth and following antennal segments slender and rather densely bristly setose (figs 221, 222), scapus slightly longer than pedicellus (fig. 220), third antennal segment distinctly longer than pedicellus and 1.1 times as long as fourth segment, third, fourth, sixth and penultimate segments 3.0, 2.7, 2.2, and 2.0 times as long as wide, respectively (figs 221, 222); length of maxillary palp 1.2 times height of head; face mainly smooth, 1.3 times higher than wide (fig. 217) and with short setosity (fig. 218); clypeus smooth except some punctulation, distinctly convex, somewhat below lower level of eyes (fig. 217), setae medium-sized; frons smooth, concave anteriorly, glabrous except lateral setosity and without median groove, declivous in front of anterior ocellus; eye elliptical, not or weakly protruding forward (fig. 218); eye in dorsal view 1.2 times as long as temple; temples parallel-sided behind eyes, but head behind eyes distinctly narrower than at level of eyes; length of malar space 1.1 times basal width of mandible.

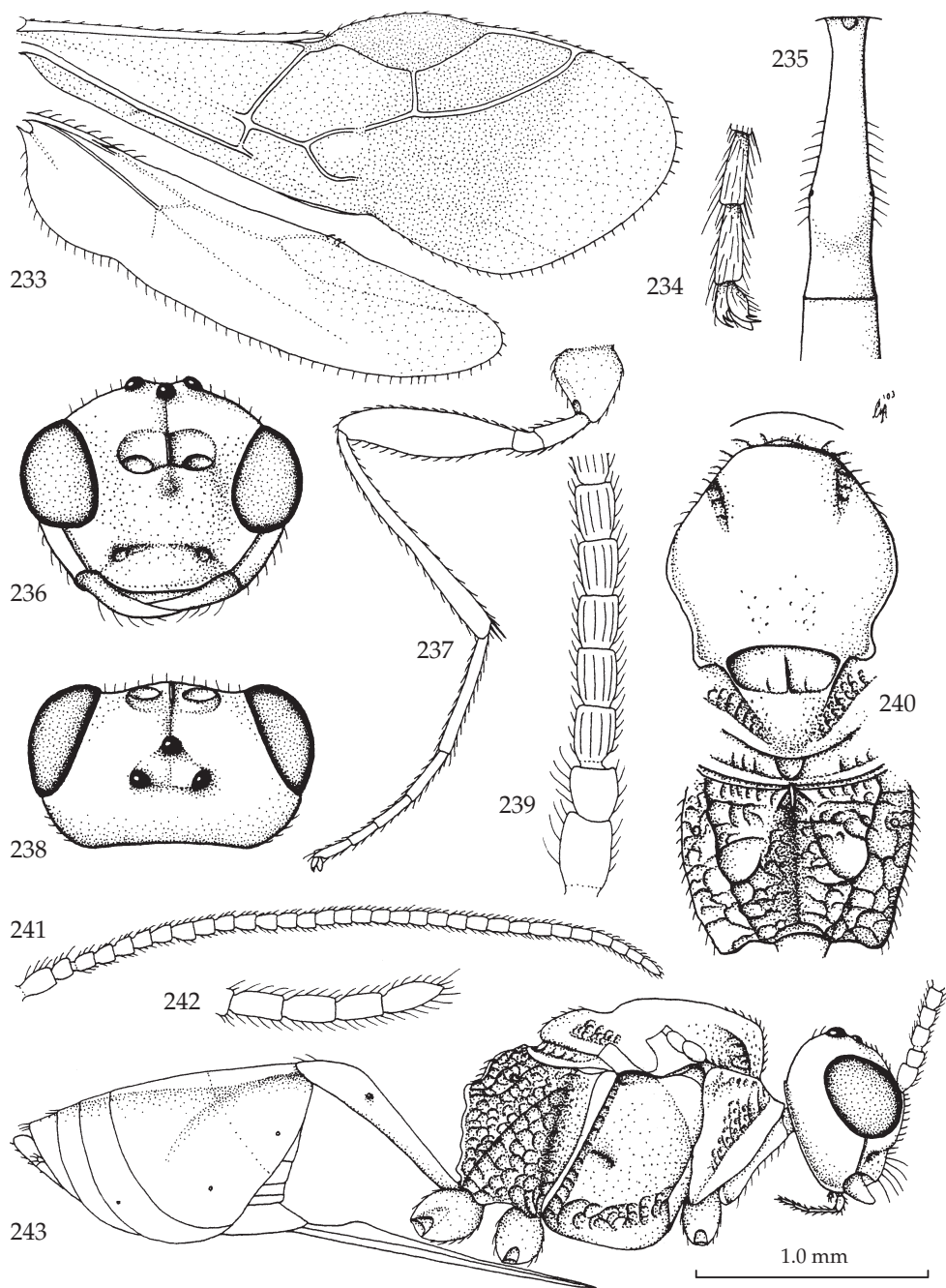
Mesosoma.— Antescutal depression medium-sized; mesoscutum smooth (including notaulic area anteriorly), glabrous; notauli absent; scutellum weakly convex, smooth, with distinct medio-posterior depression; metapleuron smooth; propodeum smooth, anteriorly rather long, and without median carina or rugae posteriorly, posteriorly gradually lowered, with pair of short lateral carinae and without areola or costulae (figs 214, 216).

Wings.— Fore wing: basal half of pterostigma rather slender, vein r emitted distinctly after middle (fig. 213); vein 1-R1 1.4 times as long as pterostigma, complete; marginal cell rather narrow (fig. 213); basal and subbasal cells of fore wing nearly as densely setose as other cells. Hind wing: vein 1r-m medium-sized, about half as long as vein 2-SC+R (fig. 215).

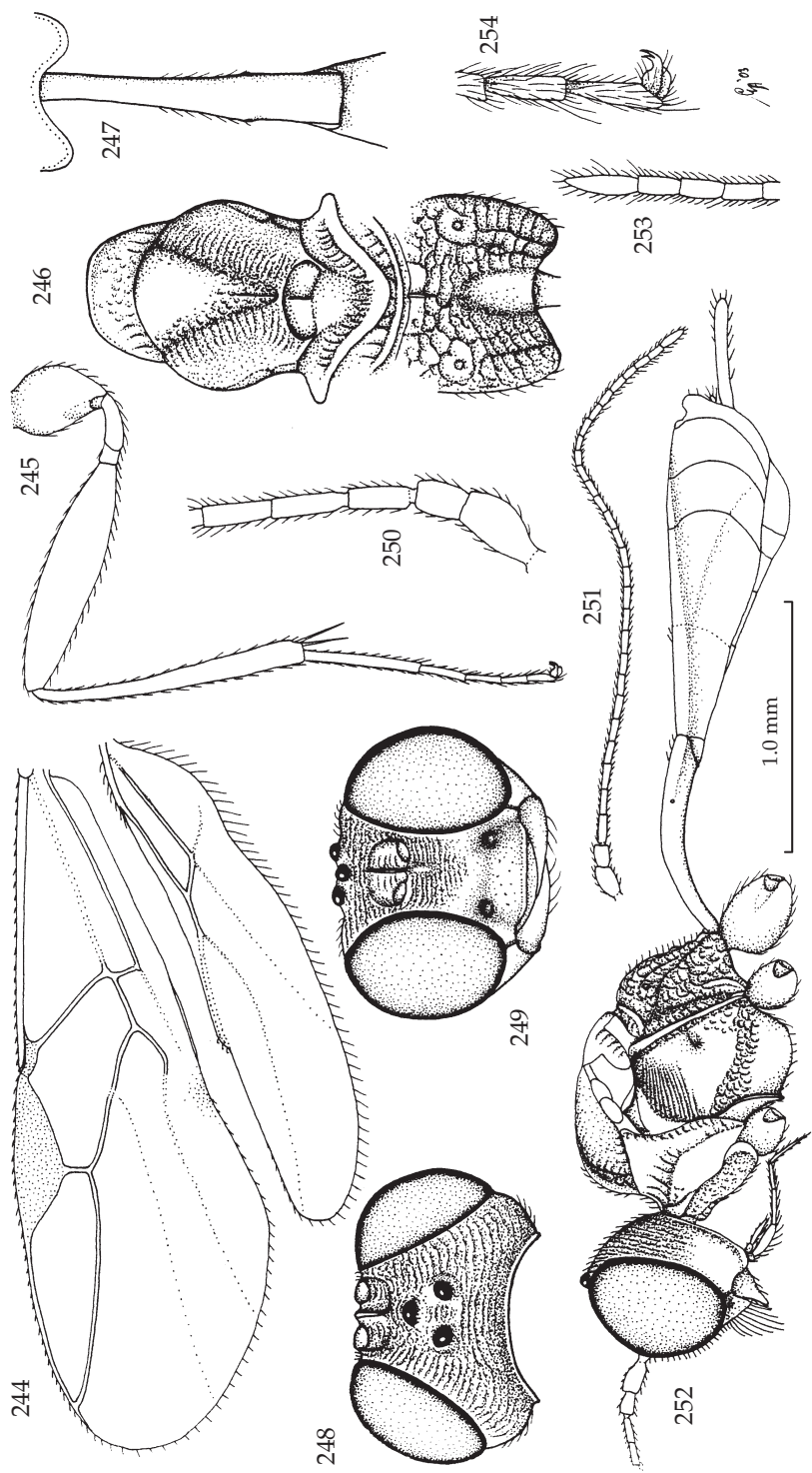
Legs.— Length of femur, tibia and basitarsus of hind leg 4.2, 10.0 and 5.8 times as long as their maximum width, respectively; hind basitarsus moderately robust (fig. 219); fore femur slender, 4.5 times longer than wide (fig. 222).



Figs 223-232, *Syntretus falcifer* (Tobias), ♀, holotype. 223, wings; 224, inner hind claw; 225, head, frontal aspect; 226, first metasomal tergite, dorsal aspect; 227, hind leg; 228, fore femur, lateral aspect; 229, middle femur, lateral aspect; 230, head, dorsal aspect; 231, meso- and metathorax, dorsal aspect; 232, habitus, lateral aspect. 223, 227, 232: 1.0 × scale-line; 224: 4.5 ×; 228, 229: 1.4 ×; 225, 226, 230, 231: 2.5 ×.



Figs 233-243, *Syntretus amoenus* Belokobylskij, ♀, holotype. 233, wings; 234, outer hind claw; 235, first metasomal tergite, dorsal aspect; 236, head, frontal aspect; 237, hind leg; 238, head, dorsal aspect; 239, base of antenna; 240, mesosoma, dorsal aspect; 241, antenna; 242, apex of antenna; 243, habitus, lateral aspect. 233, 237, 241, 243: 1.0 × scale-line; 234, 239, 242: 2.5 ×; 235, 236, 238, 240: 1.4 ×.



Figs 244-254, *Scaptosyntretus oculatus* Belokobylskij, ♀, holotype. 244, wings; 245, hind leg; 246, mesosoma, dorsal aspect; 247, first metasomal tergite, dorsal aspect; 248, head, dorsal aspect; 249, head, frontal aspect; 250, base of antenna; 251, antenna; 252, habitus, lateral aspect; 253, apex of antenna; 254, inner hind claw. 244, 245, 251, 252: 1.0 × scale-line; 246-249, 254: 3.1 ×; 250, 253: 2.5 ×.

Metasoma.— First tergite dorsally smooth, in front of spiracles distinctly narrowed (fig. 214), first tergite distinctly widened basally, flattened ventro-basally (trapezoid-shaped), and sternite separated by sutures, notum posteriorly weakly convex (fig. 214); laterally mainly smooth except some short crenulation in front of laterope, with distinct dorso-lateral carina; laterope deep, large and situated just in front of middle of tergite and removed from spiracle (fig. 216); ovipositor sheath 0.13 times fore wing, 0.4 times hind tibia and 0.35 times as long as metasoma.

Colour.— Pale brownish-yellow; antenna (except for four basal segments), stemmaticum, wide band on vertex and frons dorsally, mesosoma dorsally, first metasomal tergite medially and latero-posteriorly, third and following tergites, telotarsi, ovipositor sheath and medially upper valve of ovipositor largely dark brown; veins of posterior half of fore wing and pterostigma laterally brown, remainder of veins and of pterostigma yellowish; palpi, coxae and tegulae pale whitish-yellow; wing membrane subhyaline.

Distribution.— Austria, Bulgaria, Denmark, England, Germany, Ireland, Italy, Netherlands, Scotland, and Sweden. Collected mainly in July-August.

Variation.— Length of fore wing 2.1-2.4 mm, length of body 1.7-2.2 mm; antennal segments of ♀ 19 (1), 20 (17), 21 (22), 22 (4), or 23 (2), and of ♂ 18 (4), 19 (1), 20 (1), 21 (1) or 22 (1). Length of sixth antennal segment 1.7-2.4 times as long as wide; laterope situated near middle of tergite; length of ovipositor sheath 0.12-0.16 times fore wing; vein 1-R1 of fore wing 1.3-1.4 times length of pterostigma; length of hind basitarsus 5.7-6.7 times its width; fore and middle femora more or less compressed; body may be largely yellowish except for stemmaticum, antenna largely and apical half of metasoma; first tergite may be completely dark brown, and may be slightly narrowed or parallel-sided in front of spiracles (especially in Irish specimens); mesoscutum often with three large dark brown patches; hind tarsus pale yellowish-brown except for darkened telotarsus; frons smooth laterally.

Notes.— It is a great pleasure to name the species after one of its collectors, the hymenopterist and dipterist Jan Willem van Zuijlen (Waalwijk).

This species resembles *S. xanthocephalus* (Marshall) but *S. xanthocephalus* has the frons sparsely punctate laterally, area between the stemmaticum and the eye yellowish, the hind basitarsus more slender (7-8 times as long as wide), the sixth antennal segment more robust, a larger size, the basal half of the first tergite usually hardly or not constricted, subparallel-sided, the scutellum more convex, and the laterope elongate.

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